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ABSTRACT

The feasibility study for implementing an instructional fixed service television (ITFS) system in the Northeastern Educational Intermediate Unit 19 School District of Scranton, Pennsylvania was based on 25 questionnaires sent to already existing ITFS systems. Basically the study contained the responses to the questionnaire with ITFS operators explaining the advantages and problems of their particular type of system. The study was only concerned with those systems that operated in the 2500 MHz band. This study concluded by recommending that the district make the necessary technical and financial arrangements to install an ITFS system. (MC)

ED 072664

# FEASIBILITY STUDY

## 2500 MHz

**INSTRUCTIONAL TELEVISION**
**SYSTEM FIXED SERVICE**

*Northeastern Educational Intermediate Unit*
200 ADAMS AVENUE — SCRANTON, PA. 18503

EM 010 786

ED 072664

# REPORT

TO: DR. P. M. MENSKY, *Executive Director*
Northeastern Educational Intermediate Unit 19
200 Adams Avenue, Scranton, Pa.

## SUBJECT

FEASIBILITY STUDY
INSTRUCTIONAL TELEVISION SYSTEM
2500 MHz "ITFS"

## PURPOSE

To Consider Adoption of the Above System
To Improve Instructional Facilities and Curriculum
For All Schools.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
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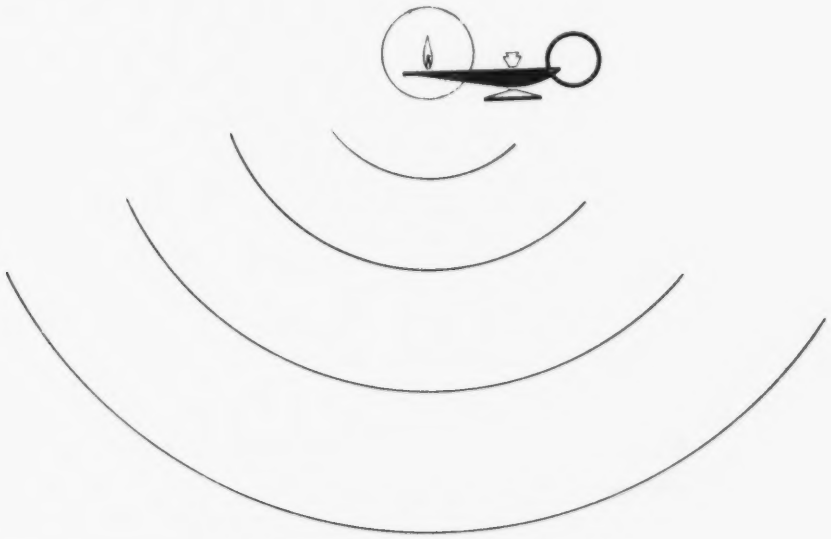
*Respectfully submitted by*
MAX J. FRIEDMAN
COMMUNICATIONS CONSULTANT
P. O. Box 1458
Kingston, Pa. 18704

September, 1972

# "The Lamp Of Learning Is Wired For Sight and Sound"

In my study, I came across this wonderful phrase which seems to me to express in a few words most dramatically and succinctly what instructional television is all about. I am grateful to Dorothy Williams, Director of Communications of Simmons College, Boston, Massachusetts, who created it. It is inspiring and merits acclaim from all who read it.



# INSTRUCTIONAL TELEVISION FIXED SERVICE
# WHAT IT IS & WHAT IT CAN DO
# FOR ELEMENTARY & SECONDARY SCHOOLS

This is a short condensation, in laymen's language, of the tremendous possibilities available for the use of the system.

"Instructional Television Fixed Service" is a means of transmission of instructional television material throughout a school district. It makes use of "through the air" transmission techniques in the 2500 Megahertz portion of the radio spectrum. Thirty-one channels have been reserved by the Federal Communications Commission for this purpose and it is essentially a private system.

Instructional Television has as its purpose the production, origination and distribution of programs of learning, information and communication. It has the capability of covering not only the students, teachers, and administrative personnel, but also the citizenry of the district.

Audio "talkback" circuits for 2-way response have recently been added to the "ITFS" system. This enables the student to ask questions of the teacher or lecturer and get answers. This is a great advance and opens up a wide area for teaching classes where blackboard demonstrations are used. It actually brings the teacher and the class together — though miles apart.

The system has a very realistic way of employing a trained teaching staff more efficiently by distributing the talents of your TV teachers over the entire system intsead of in one school.

Classes can discuss important issues with distinguished people—authors, artists or specialists in various fields. Presidential addresses, worthwhile commercial programs, as well as programs from the public educational system, can be taped off the air and transmitted to the entire district — at the time when the classroom teacher wants it and not when the public educational or commercial systems choose to air them.

Important events, such as the space launchings and moon walks, can be taped while in progress and transmitted instantly or at any other appropriate time. Current events happen before the eyes of the students and sounds ring in their ears because "they are there". This adds a new dimension to education. This overcomes the lag of time between the event and the publication of a text book.

The system has quadruple ability to reach students with much greater effectiveness because as many as four channels can be transmitted simultaneously, whereas the educational station as well as the commercial stations are limited to one channel.

A great library of instructional courses on hundreds of subjects is now on video tape available from the Department of Education. Playback of these tapes can be transmitted throughout the system. The state library of these tapes is only one source. Video tapes are available from many other sources, notably colleges and universities, institutions and foundations. The amount of material is overwhelming and growing greater every day.

There can no longer be any doubt that students learn efficiently from instructional television. The fact has been demonstrated now in hundreds of schools, by thousands of students, in every part of the United States. The list of subjects which schools and colleges have been able to teach effectively by television includes practically every subject now being taught in both elementary and secondary schools.

The system has the possibility of becoming a regional project, where several intermediate units can form a consortium for practical and economic reasons. This has been done in several cases with much success.

There are over 175 "ITFS" systems now in operation throughout the United States. In our own state of Pennsylvania at this writing, there are only four school systems, and recently three universities have joined the ranks. However, applications for licenses are being filed in growing numbers, which is proof that this great educational tool is coming to the front rapidly.

This system does not displace the public educational station. Each has special functions to perform and the ideal arrangement is one where both cooperate fully to obtain the best results for the students and the public. This has been proved practical and workable in several instances, to the advantage of all concerned. It requires much planning and, because of the many benefits to both, should be thoroughly explored, so that the programming of each supplements the other.

Cable TV also has possibilities in connection with an "ITFS" system, and is now being used in a few instances. There can be a marirage between the two where the proper conditions for it exist. Here is where "adult education" has a great potential for classrooms in the home!

The Department of Education firmly believes that the 2500 MHz "ITFS" system is the right direction that instructional television should take and endorses the idea highly.

This study was made in depth. I personally visited four systems and comments regarding these visits are included in this report.

I conferred with Dr. Nile D. Coon and Mr. Blaze Gusic of the Department of Education and I am pleased to report that they are highly in favor of this method of instructional television.

A questionnaire was sent to each of the 154 schools in the Northeastern Educational Intermediate Unit for information regarding any equipment they now have for receiving television programs - closed circuit television equipment and the number of monitors.

A questionnaire was carefully prepared and sent to 87 existing systems in various sections of the United States. Fifty-four of these replied and a wealth of important information was accumulated.

I had three objectives in mind in sending the above questionnaire. First, to decide whether this kind of a system is operating satisfactorily; secondly, to determine how much capital is needed for equipment, and thirdly, to determine the cost basis of per pupil per year. I succeeded in all three objectives and these results are included in this report.

To reach an accurate cost per pupil per year, I selected only 26 of the 54 replies. Fourteen of the replies were from colleges and universities on which I will comment later in this report. I selected 26 that appeared, by far, the best of the systems as evidenced by their replies and other information regarding their programming and scheduling.

The average cost per pupil per year appears to be $4.50. This is a very important figure because it is surely a safe basis on which to calculate the cost of operating this instructional television system.

It appears, however, impossible to strike an average as to the capital expenditure necessary for the installation of such a system. You will note the great variation from the chart attached. Later on in my comments, there will be an estimate of the capital necessary for the Northeastern Educational Intermediate Unit.

# STATISTICAL SUMMARY
# OUTSTANDING 2500 MHz ITFS SYSTEMS

**See following Special Notes*

| *Location* | *Capital Expended* | *Engineering Cost* | *How Financed* | *Number of Bldgs.* | *Number of Students* | *Yearly Operating Cost* | *Cost per Student* |
|---|---|---|---|---|---|---|---|
| Mesquite, Tex. | N.A. | N.A. | Local Funds Tax Money | 22 | 20,000 | $150,000 | $7.50 |
| Gadsden, Ala. | $ 40,000 | N.A. | Title III - ESEA | 7 | 4,000 | 30,000 | 7.50 |
| Omaha, Neb. | 62,000 | N.A. | Title III | 130 | 66,000 | 25,000 | 7.00 *1 |
| Lewistown, Pa. | 210,000 | 8,000 | Title I - ESEA | 25 | 9,900 | 64,000 | 6.50 |
| Ft. Lauderdale, Fla. | 1,085,000 | 52,000 | Title I; Local School Funds | 125 | 122,000 | 800,000 | 6.50 |
| Folsom, Pa. (Tri-State) | 160,000 | N.A. | See footnote | 47 | 20,000 | Footnote | 6.00 *2 |
| Palm Beach County, Fla. | N.A. | N.A. | Title I; State Funds; Local | 89 | 70,000 | 400,000 | 5.70 |
| Las Vegas, Nev. | 320,000 | N.A. | School District Bond Issue | 90 | 72,000 | 360,000 | 5.00 |
| Torrance, Cal. | 240,000 | 18,000 | School Operating Budget | 36 | 21,000 | 102,000 | 5.00 |
| Osseo, Minn. | N.A. | N.A. | School Board Funding | 17 | 13,500 | 66,000 | 5.00 |
| Altoona, Pa. | N.A. | N.A. | NDEA; ESEA; Local Donations | 40 | 17,000 | 68,000 | 4.75 *3 |
| Franklin Square, N.Y. | 30,000 | None | Local Taxes, Sch. Bdg., State Aid | 6 | 12,000 | N.A. | 4.75 |
| Rockville Centre, N.Y. | 1,500,000 | N.A. | R. C. Diocese | 85 | 70,000 | 325,000 | 4.65 |
| Cleveland, Ohio | 50,000 | 25,000 | Funds raised by ETV Station | 25 | 25,000 | N.A. | 4.57 *4 |
| Parma, Ohio | 300,000 | N.A. | Board of Education | 29 | 26,000 | 35,000 | 4.57 *5 |
| Richardson, Tex. | 160,000 | N.A. | Local Tax Funds | 36 | 32,000 | 140,000 | 4.40 |
| Martin, Tenn. | 440,000 | 10,000 | Local & State Funds | 90 | 40,000 | 165,000 | 4.10 |
| Birmingham, Ala. | 285,000 | N.A. | Title I - ESEA | 80 | 50,000 | 200,000 | 4.00 |
| Long Beach, Cal. | 205,000 | N.A. | School District Funds | 79 | 67,000 | 100,000 | 4.00 |
| Paducah, Ky. | 105,000 | 3,000 | Title III, Special Local Fund | 14 | 6,500 | 28,000 | 4.00 |
| Peoria, Ill. | N.A. | N.A. | N.A. | 100 | 30,000 | 100,000 | 3.30 |
| Pasadena, Cal. | 225,000 | N.A. | Sch. Bgt. (Syst. built in segments) | N.A. | 25,000 | 60,000 | 2.40 *6 |
| Huntsville, Ala. | 200,000 | N.A. | Title I - ESEA | 28 | 32,000 | 65,000 | 2.00 |
| Houston, Tex. | 300,000 | N.A. | Local School Bond Issue | 33 | 40,000 | 75,000 | 1.90 |
| Union, N. J. | 29,000 | 6,000 | Title III - ESEA | 10 | 8,800 | 11,000 | 1.25 *7 |
| Hanover, Pa. | 115,000 | 3,000 | Title III - ESEA; Title III - NDEA | 28 | 13,000 | 11,500 | 1.15 *8 |

"N.A." - Not Available

## FOOTNOTES

*1—Omaha - The total enrollment is 66,000, but only two high school buildings, involving 3500 students, are presently receiving programs. All other buildings will be equipped in the future.

*2—Folsom (Tri-State) - Grant from the Grundy Foundation and the Department of Education for engineering services. Estimated operational cost for technicians only $20,000. Since they are not yet on the air, complete operating expense cannot be accurately estimated.

*3—Altoona - Operating budget comes from local tax money.

*4—Cleveland - See special comments.

*5—Parma - Fully described in letter and questionnaire.

*6—Pasadena - Statement made on questionnaire as follows: "Not enough for proper operating."

*7—Union - There is no question whatever that this figure is wrong.

*8—Hanover - This system does not take into consideration any expenditure for programs taped off the air from the educational station or the ocmmercial stations.

ROCKVILLE CENTRE - The Diocese furnished all the money, both for transmitting and receiving for every school.

ADDENDUM: I received from many of the systems answering the questionnaire, literature concerning programming, scheduling and curriculum. This may be very informative to you and is at your disposal at the Northeastern Educational Intermediate Unit.

Fort Lauderdale
Palm Beach
Richardson
Las Vegas
Osseo
Huntsville
Martin
Altoona
Cleveland
Detroit Diocese
Long Beach

# "2500 MHz" AND YOUR "I.M.S."

Your Instructional Materials Center will be greatly reinforced in many ways should you decide to install a 2500 MHz System!

First of all, Mr. John Arcangelo, your director of IMC, has been in the forefront in realizing the value of television for instructional purposes. He is responsible for the installation of a modern studio in your new quarters. This studio can be the center of all operations for the transmission system. He already has a staff of trained personnel in the handling of cameras and video tape recorders. He has an excellent graphic arts department headed by Paul Argenio. He has some equipment for the production of programs but, of course, will need more as well as all transmission equipment. You, therefore, have an ideal situation from which to go forward! Your director, is thoroughly convinced of the great value of 2500 MHz and is fully competent to head this department.

There will be great savings for all schools should this project be adopted. No longer will each school or school district need to purchase the usual amount of audio visual equipment which runs into thousands of dollars each year. They will be able to receive any program - whether 16 mm. projector or slide projector or films from your film library - or original live programs from your studio. All the schools will need is a receiving dish - a distribution master antenna system and classroom monitors.

Your film library now becomes an active and versatile part of your daily operation - without the expense of physically transporting films to schools and picking them up. Scheduling can be set up in such a way that you can cover any group of schools - or all schools simultaneously. It does not take much imagination to realize how much time and how much money can be saved by transmitting films over your 2500 MHz System.

However, these films will still be available to schools and they may continue to request delivery of them. We realize that there will be occasion for special purposes when they will need the film in their own building for use at times suitable to them. Therefore, this service will still be at their disposal.

Those schools now having closed circuit systems can join in the operation in many ways. Programs they create can be transmitted over the entire MHz System. A word of caution is indicated at this point. The introduction of video cassettes changes the picture considerably and will ultimately simplify the operation for all schools. Reel to reel video recorders are, therefore, becoming more or less obsolete. New equipment in cameras and accessories are being offered daily. I firmly believe purchases of equipment, at this point, should be held to a bare minimum - at least, until the matter of this project is resolved.

There is no question but what a 2500 MHz ITFS System will greatly reinforce the efficiency and versatility of your IMC and will contribute greatly to the instructional facilities of all schools.

# EQUIPMENT NOW EXISTING IN THE NORTHEASTERN EDUCATIONAL INTERMEDIATE UNIT

Except for the Scranton City Schools and the Abington Heights Schools, it appears that for the most part, with very few exceptions, there are no master antenna systems to receive programs and very few monitors in the class rooms.

This is regrettable but, fortunately, all new schools being built will have master antenna systems and again, fortunately, the cost of installation of these distribution systems and monitors is not a major financial problem for any school district.

The City of Scranton has 31 school buildings, of which 14 are now equipped with master antenna systems and they do have a number of other accessories such as video tape recorders, cameras, etc. Abington Heights' Schools are all equipped with master antenna systems and also have some accessory equipment. It will be necessary for each school district to give consideration, at the present time, to take this first step by providing master antenna systems for each of the school buildings so that they will be in a position to receive the programs that will ultimately be transmitted by the 2500 MHz System.

The cost of a master antenna system is actually minimal when you consider the great deal of good that can be accomplished by it. I urge each district to start to investigate this and make plans to see that every school will be able to receive the instructional programs that will be offered.

The writer is available to you for consultation regarding the cost of these systems and can give you valuable advice.

I have made a tabulation from the questionnaires and can quickly advise you the approximate cost of a master antenna system for each school building in your district. There will be no charge for this service.

# SCHOOLS AND CABLE TELEVISION

Cable television is getting a great deal of publicity in the newspaper these days. Much of it is misunderstood by the city officials who are granting franchises, by the public which is not paying enough attention to what is happening, and by the school administrators who fail to realize the potential of cable television.

Unfortunately, cable television operators are not regulated in the same way that television and radio operators are. Only recently new rules have been laid down by the FCC which ultimately may produce a situation that would stabilize the use of cable television for instructional purposes. However, this situation is probably five to ten years away.

At present the franchises being handed out by municipal authorities do not cover in any way, shape or form the kind of an investigation that should be undertaken before a franchise is granted. Since the cable operators have a primary purpose and objective, which is to make a profit, they certainly cannot be expected to give the kind of consideration that is needed for a proper system that would give the school adequate instructional television.

In the area covered by the Northeastern Educational Intermediate Unit, there are at present thirteen separate companies involved in cable television. None of these has approached the school administrators in such a way that a feasible plan could be worked out and made operational. It is manifestly impossible to get all of these operators to work together to create a satisfactory system - and allot four channels for school use - programmed and coordinated with "bell time."

The very best that can be hoped for, for this area, would be that these cable companies could be used for adult education and for public service in their various communities. At present, it is completely inconceivable that cable television can do any kind of a job in instructional television for schools to begin to compare with what can be done by 2500 MHz I.T.F.S. System.

However, it is possible for great use to be made of the cable systems! I suggest that they be given video tape material prepared by the schools for distribution to the general public! In this way, each cable system can transmit educational, cultural or instructional material at a time that suits their schedule. The schools will then be performing a worthwhile function for parents and the general public. No coordinated time schedule would be required - and all thirteen cable operators would be doing part of what the new rules say they must do.

This type of operation can lead to great use of cable television. Complete courses could be prepared for adult education. Cooperation then between the separate cable operators and schools would follow naturally. Without any need for complicated schedules and without conflicting interests - working for the good of the public - "cable TV and schools" can and will be a part of our daily educational life in the very near future.

## WVIA CHANNEL 44 and 2500 MHz ITFS

As stated previously, the Department of Education and the F.C.C. both agree that the educational stations should limit their efforts to cultural and enrichment programs both for schools as well as for the general public - and to refrain from broadcasting instructional programs and courses. This, they believe, should be left to the educators.

The best way for schools to enjoy the benefits of special programs broadcast by Channel 44 - is to contribute their share of $1.25 per pupil per year. At present ten districts now do so - but there are still ten districts that are not paying this fee. I, earnestly, urge them to join for a very specific reason. Attached is a letter from the attorney for the Corporation for Public Broadcasting as well as a letter from the general manager of the Pennsylvania ETV Stations. It would seem that without question the right to tape these programs and re-transmit follows definitely if the schools contribute yearly for each pupil. Neither Mr. Aleinikoff nor Mr. Leonard - for reasons of their own - come out and say so - but surely they agree that no ETV Station would proceed against any school district that contributes to their operation. They are using taxpayer's money and, therefore, their service to taxpayers should be offered freely in return. In this case $1.25 per pupil per year definitely entitles us to avail ourselves of any or all their programs without any additional charge.

## E.T.V. STATION WVIA CHANNEL 44

At present ten districts out of the twenty that make up the Northeastern Educational Intermediate Unit avail themselves of the facilities of this station. They pay at present $1.25 per pupil per year to the station. The main reason that ten districts have not participated is that the signal from WVIA was not adequate and the reception, therefore, too poor for use for instructional purposes.

This is being corrected and gradually all areas in the unit will be able to receive their programs satisfactorily.

However, since they are still limited to the use of one channel, they naturally cannot do the job that 2500 MHz with four channels can do. The F.C.C. has advised the writer that they frown upon the idea of the educational stations attempting to do an instructional job and want them to limit their efforts to enrichment programs - like Sesame Street and The Electric Company - and to programs for the general public.

They can, however, be of great use to the school systems in the area they cover by becoming the clearing house and center of all activities affecting the cultural and enrichment programs the schools should receive. This can be the means of reducing the cost to each school district.

There are five Intermediate Units in Northeastern Pennsylvania that are served by WVIA. All should eventually join in a consortium for the benefit of all. One unit must make a start and I suggest that this one do so! The rest are bound to follow.

### COMMENT

It is interesting to note that where a system is not closely allied to the ETV station in the area, and especially where they have only one 2500 MHz channel, the programming suffers and scheduling is most difficult. One channel is entirely too restrictive and scheduling it is most inadequate. It goes without saying that a four channel system is most desirable for many obvious reasons.

**wvia-tv**

**CHANNEL 44 BOX 4444 SCRANTON, PENNA. 18509**

**phone 717-344-8637**

GEORGE H. STRIMEL JR. - Executive Vice President, General Manager

September 12, 1972

Mr. Max J. Friedman
Communications Consultant
Northeastern Educational Intermediate Unit
200 Adams Avenue
Scranton, Pennsylvania 18503

Dear Max:

As per your request here is a list of the school districts currently members of the WVIA-TV Instructional Service: Abington Heights; Carbondale-Fell; Dunmore; Old Forge; Riverside; Scranton; Valley View; Blue Ridge; Elk Lake; Lackawanna Trail.

Also, the Special Education Department of the Northeastern Intermediate Unit is a member of the service. A number of individual parochial schools are also members of the Instructional Service. Finally, Keystone Junior College, Marywood College, and the University of Scranton are members of Channel 44.

As you know intervening terrain has made our service unavailable to many of the Districts within the Intermediate Unit. The translator system we are currently installing will remedy that situation and give us 100% coverage.

If I can be of any further service please let me know.

Best wishes.

Sincerely,

George H. Strimel, Jr.
Executive Vice-President &
General Manager

GHS:gas

April 19, 1972

Mr. David Leonard, General Manager
Pennsylvania Public Television Network
P.O. Box 397
Hershey, Pa.

Dear Mr. Leonard:

I am working with the Northeastern Intermediate Educational Unit on a project concerning their adoption of a 2500 MHz ITFS system. There is one area on which I need clarification, and I hope you can help me.

What rights belong to school districts and what rights belong to the ETV Station regarding direct receiving of their programs and/or taping them off the air for transmission later? This covers the area of so-called exclusivity.

At the same time, what rights do the cable companies have in this same area? I am sure you know exactly what I am driving at, and I hope you will answer this promptly — and definitely state what type of programs can be used without charge and what type of programs will legally carry a charge by the ETV Station to the school district.

Regarding those districts which now pay the ETV Station on the basis of per pupil per year, aren't they entitled to any and all programs from the ETV Station without charge?

I will appreciate your answer as soon as possible.

Sincerely yours,

Max J. Friedman
Communications Consultant

MJF/pm

PENNSYLVANIA PUBLIC TELEVISION NETWORK
P. O. Box 397, Hershey, Pennsylvania, 17033 phone (717) 533-2157

May 4, 1972

Mr. Max J. Friedman
Communications Consultant
P.O. Box 1458
Kingston, Pennsylvania 18704

Dear Mr. Friedman:

Your questions about which type of instructional programs may be available for ITSF systems at no charge and at some cost cannot be answered in a clear-cut fashion. Several factors conspire to make it impossible.

The copyright law is number one. Revision of this basic law has been in the works for some years now and until it is accomplished we find ourselves working with very much out of date guidelines. Nearly all television programs (commercial and non-commercial) are copyrighted by the producer and/or distributor.

Many different producers are involved in instructional programming — ranging from commercial enterprises such as Time-Life Films to national non-profit libraries to individual public television stations. User agreements with these producers, although finally coming down to the local station broadcasting the programs, may be completed by national or regional networks (PBS and EEN), by the Department of Education, and/or by the local station.

Not only do the rights vary between producers and distributors, but individual agreements may also vary from series to series. Exclusivity is often a part of such agreements.

In the final analysis it is necessary to treat such program series individually. And the only reliable single source for such information is the broadcast station — WVIA-TV in your area of the state.

The station enters into contractual agreements with the various producers and distributors in order to provide the programming that member schools want. These agreements necessarily reflect the use rights which the station has and what additional rights it may be able to give individual school districts.

School districts, in turn, enter into formal agreements with the station which is providing the instructional service. This agreement should make provision for describing program use rights which the schools have.

Anyone with a TV set — including non-member schools — can, of course, pick up a broadcast program and view it. To the best of my knowledge no legal action has been filed against any of these pirates to date, and the closest case of which I'm aware revolved around copyright infringement (settled in favor of the copyright holder).

Cable companies have those rights given under existing FCC rules and regulations — which basically require carriage of the public TV station's programs within certain signal areas. It would seem that any recording and rebroadcast rights by cable would have to be under an agreement with the station and in accordance with copyright law.

Any station's instructional service obviously operates to provide the best programming available to its member schools and to be so attractive to non-members that they will be encouraged to join. For this reason I would expect the station to be as responsive as possible to any need for recording, rebroadcast, etc. of its program by its member schools.

It is impossible, then, for me to definitely state what type of programs can be used without charge and what types legally carry a charge. Only the station broadcasting in the area concerned, or the copyright holder, can identify the particular programs and how they can be used.

Please recognize that this is not an attempt to provide legal advice, nor does it necessarily recognize all of the variations and confusion surrounding your questions.

Let me know if I can help by amplifying any of these comments. You may wish to consult with a communications attorney who is familiar with copyright law if the legal questions involved are of prime importance.

Sincerely,

David H. Leonard
General Manager

DHL/rl

CORPORATION FOR
PUBLIC BROADCASTING
1345 AVENUE OF THE AMERICAS, NEW YORK, N. Y. 10019
TELEPHONE: AREA CODE (212) 582-2020

August 22, 1972

Mr. Max Friedman
Communications Consultant
Northeastern Educational Intermediate Unit
Courthouse Annex
506 Spruce Street
Scranton, Pennsylvania 18503

Dear Mr. Friedman:

In answer to your letter inquiry, as discussed in our telephone conversation earlier today, let me try to briefly set out my understanding about the availability of ITV programs for additional closed-circuit exposure.

As a legal matter, commercial or non-commercial distributors of copyrighted telecourses may be able, if they so desire, to prohibit unauthorized duplication for subsequent replay over cable systems. Similarly, under the Federal Communications Act, ETV stations may be able to prevent off-air recording of school broadcasts for subsequent rebroadcast over another station, whether for educational or other purposes.

As far as I know, however, most, if not all, ITV distributors — such as the National Instructional Television Center, Great Plains Instructional Television Library, etc. — have no reluctance about permitting their ITV courses from being freely used by school systems as often and in whatever manner desired during the same week. This, I believe, includes closed-circuit as well as open-broadcast exposure — except that the fee payable is usually based upon the total number of viewing students, whether reached by wired or wireless transmission.

My understanding is also that most, if not all, ETV stations have no objection to rebroadcast or retransmision of their school programming — whether on a simultaneous or delayed basis — so long as all school systems so reached are willing to make the usual school contribution to the station's operating funds. While "bootlegging" unfortunately occurs in many localities, the result is to force the paying school systems unfairly to carry the burden of the nonpaying systems — and, of course, nonpaying school systems do not have the advantage of the printed material that is so essential in properly utilizing televised instruction.

I hope that the above answers your general questions — but please let me know if I can be of any further specific help in any way.

Sincerely,
Eugene N. Aleinikoff

ENA:sp

# "IMPORTANT COMMENTS"

# WHY - A CONSORTIUM!

Educational agencies of all kinds should organize new public telecommunications consortia for the constructive purpose of operating ITFS broadcast and cable systems (as well as related technologies) toward the far higher cost of efficiency made possible through joint task assignments. In this way, reception points, auditors, spatial ranges, traffic demands, investment dollars, and the other pertinent efficiency variables could be brought to an interacting intensity of exceptional vitality and great mutual benefit.

In this age of educational accountability, institutions are expected to do relatively more with progressively less. There seems to be almost universal accord that communications technology is an essential element in attaining the heightened learning efficiencies and productivity now demanded. Yet, if we continue to follow the outmoded practice of having each school district, each university, each junior college, each training center, set up, own, and operate its own instructional telecommunications systems, we are dangerously fragmenting our scarce resources, and thus greatly diminishing the chances for optimizing the efficiency of our multifarious learning management tasks.

Only through the consortium concept can our educational establishment make efficient use of telecommunications in the broadcast range of learning management tasks.

The implication of this new approach for ITFS is probably already obvious: current licensing practices will have to be radically changed. In cohesive urban and rural areas, the FCC will have to insist that consortiums be formed for the purpose of operating, to the joint advantage of all educational interests, as many 2500 MHz channels as the total instructional traffic demand in the area requires, and as available spectrum realistically allows. Individual institutions would not be assigned separate licenses.

The future of ITFS is closely bound up with that of all the other educational telecommunications techniques. Its progress depends on the response of the whole educational community to the manifest need for achieving higher technological efficiencies through concerted action. Our need for educational accountability demands that we begin to work toward this exciting new objective.

Quoted from E.P.I.E. - by Mr. George Hall
Director of The Educational Products
Information Exchange Institute

# "SPECIAL COMMENTS"

**PENNSYLVANIA EDUCATION - Jan.-Feb. 1971 - p. 11**

One of educational television's acknowledged leaders, Joan Ganz Cooney, president of the Children's Television Workshop, producers of "Sesame Street", contends that the future of education in America may well depend upon a "wedding taking place between teaching and television." Mrs. Cooney firmly believes that those in education must "shed the old-fashioned impression that education and television are enemies, that classrooms are for learning and that television is for entertaining." She is convinced that educators can and must begin to harness television for use in the classroom itself.

In a recent speech, Governor Shapp made the statement that the educational community must in this day and age embrace the modern tools of communications technology for the efficient discharge of their responsibility of their students! Only thus can the mounting cost of education be kept manageable and in step with the real world of taxpayers' resistance.

The Director of Instructional Media Services, Dr. Nile D. Coon, of the Pennsylvania Department of Education, highly favors "ITFS" as the ideal tool for instructional purposes. "Unless a program is delivered to the classroom at the exact time it is needed, the program's educational value is almost non-existent". Although the public television stations attempt to broadcast programs to meet the needs of the school districts they serve, this is often very difficult because not all schools operate on the same schedule!

**FROM ETV NEWSLETTER - April 17, 1972**

**University of Penna. Puts In New $350,000 2-Channel ITFS System. 44**

The University of Pennsylvania has just completed the installation of a new two-channel ITFS system to broadcast courses in graduate engineering and other fields to industrial, educational, medical and government viewers throughout the Delaware Valley. Classrooms are in the Moore School of Electrical Engineering in downtown Philadelphia; the transmitters and antennas are 615 feet up on commercial Channel 17's 1300 foot tower in Roxborough, 6 miles away. The specially-designed antenna has a 12-channel capacity so that the University of Pennsylvania may share it with other institutions of higher learning, according to Fred Harper, Director of the Radio-Television Office of the University. Courses will be televised on the system starting with the 1972 fall term.

**From the Wall Street Journal of August 10, 1972**

"Public TV, in trouble, locally and nationally, appears to be stalled. Crises over money and image now are seen imperiling achievements and promise.

Then, late in June, President Nixon vetoed this appropriations bill, and the minority-affairs unit went down the drain. "I guess it will have to wait until some future time," Mr. McBride says bitterly. "It's tragic that a national resource like public television can be made into a poiltical football and have games played with it."

Poiitical football it is, but that's only part of the problem. Public television is in trouble on several fronts. Since it was born four years ago as a national alternative to commercial TV, public TV has grown rapidly into adolescence, boasting a few substantial achievements and a lot of not-quite-fulfilled promise. But, like many adolescents it isn't sure who it is or what it wants to be, and it thinks it deserves a much bigger allowance. Taken together, public TV people say, the problems threaten to undo the achievements and leave the promise unfulfilled.

The shortage of funds partly reflects the slower-than-expected growth of support from corporations, foundations and the public. But the biggest chunk of public TV support comes from the federal government. The bill vetoed by President Nixon would have given the Corporation for Public Broadcasting, which dispenses most of public TV's funds, $65 million in the year that began July 1, and $90 million the next year, or only slightly less than public broadcasting's founders envisioned.

A move to override the presidential veto, promised by some Congressmen, died, so CPB will make do with $45 million, the sum recommended by the administration.

Then there are the 225 individual stations. In addition to national shows like "Sesame Street" and "The Advocates," they show a variety of local or regional material, usually a mixture of public affairs, cultural and educational programs. They're owned, and usually financed, by state governments, colleges and school systems and citizens' groups."

## COMMENT

The above article forces us to reach the conclusion that for lack of funds and other practical reasons, expecting our local ETV station Channel 44 to play a prominent part in "instructional television" is unwarranted. The F.C.C. has stated emphatically to the writer that they frown on the E.T.V. stations entering into the instructional phase for schools and want them to confine themselves to cultural and enrichment programs for the general public. They want the 2500 MHz stations to provide Instructional T.V. programs. That is their main function and that is why this special band of 31 channels was created. We certainly should not be deluded in thinking that channel 44 can be used for that purpose.

## 2500 MHz "I.T.F.S." IN COLLEGES AND UNIVERSITIES

I received many replies to my questionnaire which was sent particularly to find out how these institutions use this system. It appears that in addition to the programs for students - nearly all of them are directed to employees in industrial plants desirous of continuing their education. Attached is a letter received from Wayne State University, Detroit, Michigan, which needs no further comment from me.

The outstanding operation is the one in Texas called "Tager." This ties up every university in the state - many hospitals and at last count sixty-four industrial plants having classrooms - into one gigantic system.

It has been so successful that in April of this year the FCC granted this system a fifth channel in an unprecendented waiver which required a revision of the FCC Act.

The purpose of this section is to bring to your attention that it is entirely possible and, in fact, most desirable that we consider this type of procedure in our plan. We have two excellent universities and many fine industrial plants that surely will be interested. Northeastern Educational Intermediate Unit can become the center of a great educational project for the good of the general public, as well as for their student body.

## RECOMMENDED READING

Educational Products Information Exchange Institute
Report # 31 on 2500 MHz "ITFS" Systems

National Association of Educational Broadcasters
April, 1072 Review

American Education
Department of Health, Education and Welfare
Issue of December, 1971

Simmons College, Boston, Massachusetts
Volume 53, Number 2
The Lamp of Learning is Wired for Sight and Sound

Association for Educational Communications and Technology
Volume 20, Number 2 - Summer 1972

Audio Visual Instruction
April, 1972 Issue on Telecommunications

National Education Association
"ITFS" - What it is - How to Plan

This booklet is recommended reading for every school administrator and every school board member as well as all the instructional personnel. It can be obtained by writing to the publication-sales section, National Education Association, 1201 Sixteenth St., N.W., Washington, D. C. 20036, single copy - $1.00 and discounts on quantity orders. We will just quote one paragraph from the booklet.

"Since the inception in 1963, of the Instructional Television Fixed Service, this important complement to educational television broadcasting has shown evidence of phenomenal growth and invaluable contributions to the development of quality education in the United States. So great was the demand for information concerning the service and the need for coordination in making efficient use of available frequencies that in October 1965 the Federal Communications Commission established a national Committee for the Full Development of the Instructional Television Fixed Service.

This booklet was prepared under the auspices of the Committee. Its purpose is to familiarize those who are interested in the improvement of teaching techniques with the vast potential that the 2500 megacycle spectrum offers.

The Federal Communications Commission appreciates the dedication of the people who have made this booklet possible."

## VIDEO TAPE INSTRUCTIONAL COURSES

It is possible to purchase or rent video tape instructional courses prepared by highly professional educators from many sources. Every subject imaginable is now available. The wealth of this material is so great that even a cursory examination of the catalogs on file in Northeastern Educational Intermediate Unit's office will convince you that teaching by television is now regarded as a normal method of instruction. Surely, advantage of these great facilities should be taken for the benefit of both students and teachers.

The following is a very small list of these sources:

"The National Instructional T.V. Center"
Bloomington, Indiana

The Great Plains National T. V. Library
University of Nebraska
Lincoln, Nebraska 68508

The Learning Corporation
New York, N. Y.

Eric "Clearing House" -
Institute for Communication Research
Cypress Hall, Stanford University
Stanford, California 94305

Educational Development Center, Inc.
55 Chapel Street
Newton, Massachusetts 02160

Bureau of Instructional Media Services
Department of Education
Harrisburg, Pennsylvania

It will pay you to get in touch with Mr. Blaze Gusic at the above address. The Department of Education has a video tape library which is growing every day. Ask for the catalog and get informed how this department can be of great help to you in many ways.

## "SPECIAL NOTE"

The following section contains the exact copies of the answers to my questionnaire. The original replies are on file in the Northeastern Educational Intermediate Unit's Office for verification. It was impossible to use them as received, so that the many copies needed for this report could be printed. The information is exactly as stated by them. We simply standardized the form for printing.

Along with the questionnaires came a wealth of literature from them which is of great interest. Schedules, programs, curriculum and general activities were described in detail. All of this is on file in the office. It will be well worth your time to see for yourself what a great job is being done by "ITFS" systems.

I believe these twenty-six answers deserve your earnest and careful perusal. They certainly give proof that excellent results are obtained. They represent a cross section of the country - which also accounts for the widespread differences in cost per pupil per year. When you consider that these twenty-six systems are typical of over one hundred fifty ITFS systems now operating in the country - you surely come to the conclusion that teaching by television over 2500 MHz is practical, economical and most satisfactory in every way.

# THE HAGERSTOWN, MARYLAND STORY

The first instructional television system in the United States was created in Hagerstown, Maryland almost 16 years ago. This was long before the FCC allocated the spectrum now known as the "2500 MHz I. T. F. S. Band."

Every school is connected by co-axial cable furnished through the facilities of Bell Telephone Company. Cost of this kind of transmission is exceptionally high. However, there was no such thing, at that time, as the 2500 MHz I.T.F.S. system. No doubt, had there been they would have chosen this method rather than the expensive co-axial cable. The main thing to remember, however, is that not only was this the first instructional television system but over the years has proven to be one of the very best. It is interesting to note the following quotation from the May 1972 issue of Educational and Industrial Television.

"In 1956, Superintendent of Schools Dr. William M. Brish instituted the instructional television system with the aid of a Ford grant. It has expanded from a few courses to many courses for every grade, touching every student in the system. We operate six channels on our closed-circuit system, and every school is connected to the cable link back to our television facility at the School Administration Offices. We are not equipped for color telecasting, so all programmnig is in black-and-white.

How can we provide the services? We have one advantage, a 16-year-old, well-established, closed circuit television system going to every school. This means we have a complete support staff for operating what would be the equivalent of two full-time television stations.

We have five studios with several crews, plus a videotape room for pre-recording the television lessons when they conflict with a heavy studio schedule or are scheduled to be used more than once. The film room is part of a film library that provides a multi-function unit for the whole school system. Resource facilities include a graphic arts department of six artists, a two-man photo and cinematography department, a duplicating department, and an instructional material department.

The Television Center is part of the Resource Center (along with the library and Space Science Center). Most of the school administrators are close by in the same building complex, available for quick consultation on the many specific problems that are involved in ITV and cable program production."

While the cost per student per year is $12.50, you will note from their answers to my questionnaire that they are very much satisfied with the performance of their system. Surely, if Northeastern Educational Intermediate Unit can do a similar job for almost one-third of the cost of the Hagerstown system, it would be wise to give consideration to the establishment of an ITFS system.

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - WASHINGTON COUNTY SCHOOLS**
**Address - HAGERSTOWN, MARYLAND**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Original equipment contributed by EIA. Board of Education now replaces equipment when needed

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

3. *How many school buildings in the system?*

   46

4. *How many students involved?*

   24,000

5. *What is your yearly cost for the operation of the system?*

6. *Where does the operational cost come from?*

   Part of regular school budget

7. *Do you use paid technicians for operation?*

   Yes

8. *Describe personnel of the above staff.*

9. *How many hours per week is the system operational?*

   45

10. *Do you have any tie with your local public television station?*

    Yes

11. *If so, do you use many of their programs? (Please describe fully.)*

    No.

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes. Use all these

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Very few

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes

15. *Who is responsible for your programming and scheduling?*

    Instructional and Television personnel

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No

17. *Do you use the system for adult education?*

    Yes

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    Yes

20. *Do you have the full support of your teachers?*
    Not full support, but a large majority

21. *Do you feel that your system is doing a satisfactory job?*

    Yes

Cost per student per year - $12.50

## TRI-STATE INSTRUCTIONAL BROADCASTING COUNCIL

This is the newest consortium consisting of four counties in Pennsylvania. They are all in the Philadelphia area covering Bucks, Chester, Delaware and Montgomery Counties.

The Executive Director is Mr. Vernon F. Cook at Folsom, Pennsylvania. The consortium is associated with WHYY-TV, Channel 12, the educational station in the area. Each of the four counties eventually will have its own private system using four channels each. Provision is being made to enable all four to join in programming simultaneously when the occasion arises.

The first segment, Bucks County, will be ready to go on the air in September - the rest to follow as construction is completed. There are a total of thirteen school districts. Some of them have indicated intention to join within one or two years. There will be eventually four studio transmission sites - but meanwhile only Bucks County will operate a transmission facility.

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## LONG BEACH UNIFIED SCHOOL DISTRICT

EDUCATION DEPARTMENT
OFFICE OF INSTRUCTIONAL RESOURCES

201 E. 8th Street, Long Beach, California 90813

Phone (213) 436-9931

March 30, 1972

Mr. Max J. Friedman
Communications Consultant
P. O. Box 1458
Kingston, Pennsylvania 18704

Dear Mr. Friedman:

I am very sorry not to have responded to your request for information about ITFS (2500 MHz) over a couple of months ago. It came at an extremely busy time and got lost in the shuffle.

On the assumption that you may still need information for future consultations, I am sending you, under separate cover, some material indicating the extent of programming for our two channels of ITFS. We are just about to go to bid for transmitters for our two remaining channels and construction has already begun on head-end equipment in our 57 elementary schools. When this is completed, our system will include four ITFS channels with head-end and distribution equipment in all the elementary schools plus 15 junior high and seven senior high schools, together with some of our administrative offices. Our school district serves approximately 67,000 students in grades K through 12. In addition, there are receiving and distribution facilities in our community college.

Again, my apology for this delay. As Chairman of Southern California ITFS Committee, I try to encourage the use of this medium wherever possible, so if there are any specific questions you would like to ask, please don't hesitate.

Very truly yours,

Dr. Frank B. George, Director
Instructional Resources

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - TRI-STATE BROADCASTING COUNCIL**
**Address - FOLSOM, PENNSYLVANIA 19033**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Directly from participating districts - per pupil fee - K-12 for 6 years - time needed to amortize. Approximately half of the fee is for capital and half for operation and programming

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   Approximately $160,000 for Bucks County facility - four districts

3. *How many school buildings in the system?*

   47

4. *How many students involved?*

   20,000

5. *What is your yearly cost for the operation of the system?*

   Too early to estimate

6. *Where does the operational cost come from?*

   Council staff and services
   Program rights
   Operational grant to Channel 12

7. *Do you use paid technicians for operations?*

   AV specialist is director of facility. His assistant is a good technician but not an electronics engineer.

8. *Describe personnel of the above staff.*

   Above

9. *How many hours per week is the system operational?*

   8:00 a.m. - 3:00 p.m. - 5 days

10. *Do you have any tie with your local public television station?*

    Above

11. *If so, do you use many of their programs? (Please describe fully.)*

    Yes

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Very little

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Yes - Channel 12 - tape and playback - and others directly from the usual libraries - NIT - GPNITL - etc.

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    No, but we intend to as needs dictate and means permit, in the future

15. *Who is responsible for your programming and scheduling?*

    Curriculum advisory committee of the council and staff working directly with County ITFS curriculum sub-committee

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    Not at present - but anticipated

17. *Do you use the system for adult education?*

    No, but hope for Library, Police, Fire Stations as possible reception centers to serve neighborhoods with adult education, pre-school, exceptional children, etc.

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    Yes

LONG BEACH UNIFIED SCHOOL DISTRICT
EDUCATION DEPARTMENT
OFFICE OF INSTRUCTIONAL RESOURCES
201 E. 8th STREET, LONG BEACH, CALIFORNIA 90813
Phone (213) 436-9931

June 2, 1972

Mr. Max Friedman
Communications Consultant
P. O. Box 1458
Kingston, Pa. 18704

Dear Mr. Friedman:

I can appreciate your need for information, but I'm not sure you understand that in a limited-budget organization like a public school system there are always far more demands on our time than we have staff personnel to meet; hence, the "priority file." I'm sorry that I just haven't had time to answer your questionnaire. However, in order to help you with your report, I'll try to answer the specific questions in your letter of April 17.

The costs of basic equipment for a typical, nominally-furnished ITFS installation like ours would be something like this:

1. *Studio Equipment* (includes two used 2" Quad and two new 1" helical videotape recorders, three vidicon cameras, two film chains, plus switching, monitoring, mixing, and other production and control equipment $125,000—$150,000

2. *Transmission Equipment* (4-channel system)
   - First transmitter 15,000
   - Additional transmitters, each 12,000
   - Antenna system 10,000—15,000

3. *Head-end Equipment* (dish antenna, down converter, and amplifier at each receiving site) 2,000

4. *Distribution System* (conduit, coaxial cable, and outlets in school buildings) average per outlet 125—200

5. *Annual Operating Cost per Pupil.* Since the initial cost of the above items would be constant regardless of the size of the school district, the cost per pupil would depend entirely on the number of pupils. A minimum annual operational cost (including 5% maintenance but with only a bare minimum of local production) would be 100,000

I hope this arrives in time to be of value to your report.

Sincerely,

Dr. Frank B. George, Director
Instructional Resources

FBG/mg

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - LONG BEACH UNIFIED SCHOOL DISTRICT**
**Address - LONG BEACH, CALIFORNIA**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   School District funds

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   Studio equipment - $125,000
   Transmission equipment - $80,000

3. *How many school buildings in the system?*

   79

4. *How many students involved?*

   67,000

5. *What is your yearly cost for the operation of the system?*

   $100,000

6. *Where does the operational cost come from?*

   School District

7. *Do you use paid technicians for operation?*

   Yes

8. *Describe personnel of the above staff.*

   Competent staff

9. *How many hours per week is the system operational?*

   30

10. *Do you have any tie with your local public television station?*

    Yes

11. *If so, do you use many of their programs? (Please describe fully.)*

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes. Use students, teachers and professional

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Yes

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes

15. *Who is responsible for your programming and scheduling?*

    Dr. Frank B. George, Director of Instructional Resources

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    Yes with Community College

17. *Do you use the system for adult education?*

    No

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    Yes

20. *Do you have the full support of your teachers?*

    Yes

21. *Do you feel that your system is doing a satisfactory job?*

    Yes

Cost per student per year - $1.50
No salaries have been included. Therefore, this figure is surely very much higher. Considering similar student populations, the overage here must certainly be at least $4.00 per student per year

# NOTES ON ALTOONA SCHOOL DISTRICT

My visit to Altoona produced an exciting surprise! Here is where the aims of the F.C.C. regarding the 2500 MHz systems are fully achieved.

Every school in the district, numbering 26 elementary and secondary, and 14 parochial — is directly involved. Every school has a receiving system — a master antenna system and every class room a TV receiver.

17,000 students are being instructed on a regular daily basis.

They have been "on the air" since 1968 and use all four channels constantly during the school week.

They employ a paid staff — consisting of a systems manager — clerk — studio technician and maintenance technician. They also have a Producer Director, Graphic Arts Supervisor and a student assistant at all times not paid, however.

All equipment including Video Tape Recorders are housed in the studio. Thus relieving each school from the expense of purchase and upkeep of separate equipment. This saves the district thousands of dollars alone. No need for duplication of all kinds of audio visual equipment like film chains, projectors, etc.

Their complete catalog of teaching tapes shows that their library contains over 500 tapes at present and is constantly being augmented.

They use the system for administrative purposes whenever the need arises and find this method practical and economical.

The school board is most cooperative and active which is a big asset.

While they do not have an advisory council, they have a wonderful curriculum staff headed by Dr. Ardell Feeley.

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - ALTOONA SCHOOL DISTRICT**
**Address - ALTOONA, PENNSYLVANIA**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   ESEA - Title I; local tax monies

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   $175,000

3. *How many school buildings in the system?*

   40

4. *How many students involved?*

   17,000

5. *What is your yearly cost for the operation of the system?*

   $68,000

6. *Where does the operational cost come from?*

   ESEA - Title I, 50%; Local, 50%

7. *Do you use paid technicians for operations?*

   Yes

8. *Describe personnel of the above staff.*

   Systems Manager, Producer/Director, Studio Technician, Field Maintenance

9. *How many hours per week is the system operational?*

   30 hours

10. *Do you have any tie with your local public television station?*

    Yes

11. *If so, do you use many of their programs? (Please describe fully.)*

    Member of Allegheny Educational Broadcast Council - WPSX-TV - State College. Pick & rebroadcast as well as direct reception

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes - Teachers, Supervisors of Academic areas. Nurses, Counselors, Librarian, professional staff members, students

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    No

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes - reading - visiting community dignitaries - political candidates - handwriting - speech

15. *Who is responsible for your programming and scheduling?*

    Asst. Superintendent for Instruction

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No

17. *Do you use the system for adult education?*

    Yes - Homemaking

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    Not frequently

20. *Do you have the full support of your teachers?*

    Elementary - excellent; Jr. High & Sr. High - fair

21. *Do you feel that your system is doing a satisfactory job?*

    Yes

Cost per student per year - $4.75

# THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA

INSTRUCTIONAL TELEVISION CENTER
Marion Lowry, Coordinator of Television
6600 Southwest Nova Dirve
Fort Lauderdale, Florida 33314
305/587-9700

August 30, 1972

Mr. Max J. Friedman
Northeastern Educational Intermediate Unit
200 Adams Avenue
Scranton, Pa. 18503

Dear Mr. Friedman:

Dr. Robert H. Miller is on sabbatical leave this year and your letter requesting information was forwarded to me. I shall try to give you a rundown of the importance of the television system in improving instruction and curriculum.

It is our opinion that the instructional television programming is definitely a vital part of the Broward County School System. Forty series are used for classroom viewings. These series are initiated by teacher requests, developed with the aid of supervisors, curriculum specialists and teachers. In-service programs provide teachers with the latest techniques and trends in education. I am enclosing a list of these.

*Film Evaluation* allows teachers to be a part in assisting the Materials Center to select films for purchase. Teachers return a card indicating their interest in specific purchases. After purchase, *New Film* allows further opportunity to preview films now owned by the county. A portion of pre-school orientation procedures for both new and experienced teachers are viewed in the 120 schools presently wired.

Flexibility for viewing is further allowed by *You Asked For It,* a schedule of request slots so that a telephone call will enable teachers to view at a time more feasible than that on the regular schedule.

Viewing records are extremely important in that we can determine the extent that programs are being used within a school. According to the computer print-outs, there were 3,926,379 student viewings in Broward County during the 1971-72 school year.

I hope that this information will be of some value to you. I regret it arrived late; had Dr. Miller or his secretary been available, you would have had an earlier response.

Sincerely,

Marion Lowry
Coordintor, Instructional Television

ML/by
Enclosures

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - FT. LAUDERDALE SCHOOL DISTRICT**

**Address - FT. LAUDERDALE, FLORIDA**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Title I, ESEA, and local school funds.

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   Equipment (2 sites) - $1,085,000; Engineering fees - $52,000

3. *How many school buildings in the system?*

   125

4. *How many students involved?*

   122,000

5. *What is your yearly cost for the operation of the system?*

   $800,000 operations - $200,000 capital outlay including TV sets in schools

6. *Where does the operational cost come from?*

   Local school funds & $200,000 Title I ESEA

7. *Do you use paid technicians for operations?*

   Yes

8. *Describe personnel of the above staff.*

   Professional - from commercial station

9. *How many hours per week is the system operational?*

   40 w/w Channels full time - total 160 hrs. of broadcast

10. *Do you have any tie with your local public television station?*

    Yes - we produce a program which they use

11. *If so, do you use many of their programs? (Please describe fully.)*

    No - none

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes - teachers and professional non-instructional

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Yes - NIT (8 of 45 series)

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    The system does, and we ask that consultants agree to a ½ hr. in-service program for local use only

15. *Who is responsible for your programming and scheduling?*

    Classroom teachers, school ITV chairman, supervisor & TV personnel

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No

17. *Do you use the system for adult education?*

    No, but expect to begin September 1972

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes, over 200 in-service programs now

19. *Do you use the system for administrative announcements?*

    Yes, but not scheduled. Special programs on major problems

20. *Do you have the full support of your teachers?*

    We have received fine support - 3,104,000 student viewings & 54,000 teacher in-service viewings in 1970-71

21. *Do you feel that your system is doing a satisfactory job?*

    Best in the country

Cost per student per year - $6.50

**INSTRUCTIONAL TELEVISION CENTER**
The School Board of Broward County, Florida
6600 Southwest Nova Drive
Fort Lauderdale, Florida 33314

FIRST SEMESTER
Beginning September 5, 1972

## ITV BROADCAST SCHEDULE FOR TEACHER PLAN BOOK

| SERIES TITLE | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|---|---|---|---|---|---|
| | Channel is indicated in parenthesis. | | | | |
| IN–SERVICE | 2:30 (6)<br>3:00 (6) | 7:30 (6)<br>8:00 (6)<br>2:30 (6) | 7:30 (6)<br>8:00 (6)<br>3:00 (6) | 7:30 (6)<br>8:00 (6)<br>2:30 (6)<br>3:00 (6) | |
| FILM EVALUATION | 7:30 (9)<br>8:00 (9) | | | | 7:30 (9)<br>8:00 (9)<br>2:30 (9)<br>3:00 (9) |
| NEW FILM | 10:00 (11) | 12:00 (11) | | 11:30 (11) | 2:00 (11) |
| ALL ABOUT YOU | | 8:30 (6) | 12:00 (6) | 10:00 (6) | 1:00 (6) |
| AMERICANS ALL | | 9:35 (11) | 11:05 (11) | 1:05 (11) | 2:35 (11) |
| BEST FOOT FORWARD | 1:05 (11) | 2:35 (11) | 7:35 (11) | | 11:05 (11) |
| CIRCLES AND STICKS | 11:00 (6) | 2:00 (6) | | 9:00 (6) | 12:30 (6) |
| COVER TO COVER | 2:00 (9) | | 9:00 (9) | 10:30 (9) | 1:00 (9) |
| CROAKENHOPPER & CO. | 8:30 (6) | 12:00 (6) | 10:00 (6) | 1:00 (6) | |
| FLORIDA SERIES | 12:30 (11) | 10:30 (11) | 9:00 (11) | 1:30 (11) | |
| FOCUS | | 8:05 (13) | 7:35 (13) | 3:35 (13) | 8:05 (13) |
| GROWING WITH MATH | 10:30 (9) | 12:30 (9) | 1:30 (9) | | 9:00 (9) |
| HERE'S HOW | 2:35 (13) | | 10:05 (13) | 11:35 (13) | 1:05 (13) |
| IMPACT | 8:05 (13) | 7:35 (13) | 3:35 (13) | | 11:05 (13) |
| IT'S YOUR WORLD | | 8:30 (9) | 10:00 (9) | 12:30 (9) | 1:30 (9) |
| JUST WRITE | 1:30 (9) | | 8:30 (9) | 10:00 (9) | 12:30 (9) |
| KALEIDOSCOPE | 8:30 (9) | 10:00 (9) | 12:30 (9) | 1:30 (9) | |
| LET'S GO | 11:05 (11) | | 2:35 (11) | 7:35 (11) | 9:35 (11) |
| MAN AND HIS WORLD | 2:35 (11) | 7:35 (11) | | 11:05 (11) | 1:05 (11) |
| MAN AND THE AMERICAS | 10:00 (9) | 1:00 (9) | 2:00 (9) | | 8:30 (9) |
| MATH IN | 11:35 (13) | 1:05 (13) | | 8:35 (13) | 10:05 (13) |
| MATTER OF FICTION | | 10:05 (13) | 11:35 (13) | 1:05 (13) | 2:05 (13) |
| THE MUSIC BOX | 12:00 (6) | 11:00 (6) | 2:00 (6) | | 9:00 (6) |
| THE NATURE OF THINGS | 1:05 (13) | 2:35 (13) | 8:35 (13) | 10:05 (13) | |
| THE NICKELODEON | 12:30 (9) | 1:30 (9) | | 9:00 (9) | 10:30 (9) |
| ODYSSEY IN BLACK | 7:35 (11) | | 1:30 (11) | 9:35 (11) | 11:35 (13) |
| ON YOUR MARK | 9:30 (6) | 1:00 (6) | 11:00 (6) | 2:00 (6) | |
| ON YOUR OWN I | | 9:00 (6) | 12:30 (6) | 10:30 (6) | 1:30 (6) |
| ON YOUR OWN II | 1:00 (9) | 2:00 (9) | | 8:30 (9) | 10:00 (9) |
| OUNCE OF PREVENTION | 1:30 (6) | | 8:30 (6) | 12:00 (6) | 10:00 (6) |
| PHOTOGRAPHY | 9:35 (11) | 11:05 (11) | 1:05 (11) | 7:35 (13) | |
| POTPOURRI | 9:00 (9) | 10:30 (9) | 1:00 (9) | | 11:00 (9) |
| PROSPECT: THE 70'S | 11:05 (13) | 1:05 (11) | 9:35 (11) | | 7:35 (11) |
| RIGHT TURN | | 9:30 (6) | 1:00 (6) | 11:00 (6) | 2:00 (6) |
| RIPPLES | 2:00 (6) | | 9:00 (6) | 12:30 (6) | 10:30 (6) |
| SAY IT WITH CELIA | 9:00 (6) | 12:30 (6) | 10:30 (6) | 1:30 (6) | |
| SAY IT WITH SAM | | 9:00 (9) | 10:30 (9) | 1:00 (9) | 2:00 (9) |
| SERENDIPITY | 12:30 (6) | 10:30 (6) | 1:30 (6) | | 8:30 (6) |
| SPECTATOR | 10:05 (13) | 11:35 (13) | 1:05 (13) | 8:05 (13) | |
| TRACE | 1:00 (6) | 10:00 (6) | 11:30 (6) | | 9:30 (6) |
| TREASURE CHEST | | 8:00 (11) | 10:00 (11) | 12:00 (11) | 1:30 (11) |
| WHY! | 11:30 (9) | 8:00 (9) | | 2:00 (9) | 9:30 (9) |
| YOUNG MATH | 10:30 (6) | 1:30 (6) | | 8:30 (6) | 12:00 (6) |

# LAS VEGAS HAS MAJOR STAKE IN ETV

**Clark County School System Includes VHF Broadcast, 2500 MHz ITFS, Translators Microwave and CCTV**

AL RIBAS,
Chief Engineer, KLVX

When KLVX, licensed to the Clark County School District, Las Vegas, went on the air March 25, 1968, it signaled the first major step in Nevada's master plan to utilize all forms and methods of transmitting television programs to the schools and the general public.

For this master plan includes not only the present broadcasting from this channel 10 station, but also four 2500 MHz ITFS channels, TV translators to cover the sparsely settled outlying sections of the state, CCTV systems in all schools, and microwave transmitters for an eventual state network.

During the past several years, the Nevada State ETV Advisory Committee had been working on plans for instructional and public television. In May of 1966 the state obtained a one year grant from the United States Office of Education for what was known as Project INNOVATE. One of the realized goals of that unusual project was the present master plan for television.

These plans became a reality when the Nevada Legislature, in the closing days of the 1967 session, enacted a bill giving the state an Educational Communications Commission. This enactment has since been hailed by many persons as one of the finest bills of its type in the United States, for Nevada had taken the strongest parts of all similar bills passed in 35 other states and combined them into one. They had also wisely used and applied the experience that had gone into studies and decisions of other state ETV commissions when writing their bill.

FIG. 1 Operations Manager Jim Horky (seated) shows color film camera operation to (L to R) Ron L. McIntyre, Coordinator, Community TV; Al Ribas, Chief Engineer; and Dr. Clifford Lawrence, Superintendent of Instruction, Clark County School District.

## SCOPE OF PROJECT

From no instructional or public television at all to a complete system using state-of-the-art method and technology constitutes the scope of the Clark County project based in Las Vegas. KLVX is now broadcasting day and night with a power of 295 kilowatts (the most power of any TV station in the state). With the addition of five translators to cover rural schools and homes, the entire county with an area of more than 8,000 square miles will be blanketed with an excellent signal.

By the Fall of 1969, four 2500 MHz Instructional Television Fixed Service channels will be in operation and providing instruction to schools in the Greater Las Vegas area where more than 90 percent of the county students reside. These signals will also be beamed to the city of Henderson, about 15 miles southeast of Las Vegas.

In the interim, a six-channel TV distribution system to handle color and monochrome was installed in all the elementary schools of the Las Vegas area. Work was also progressing for a similar distribution system.

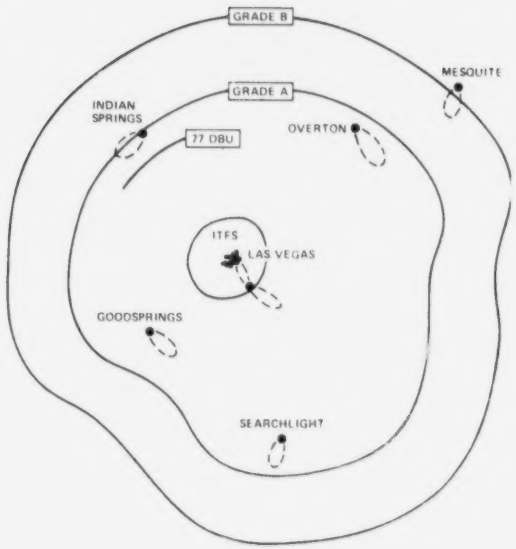
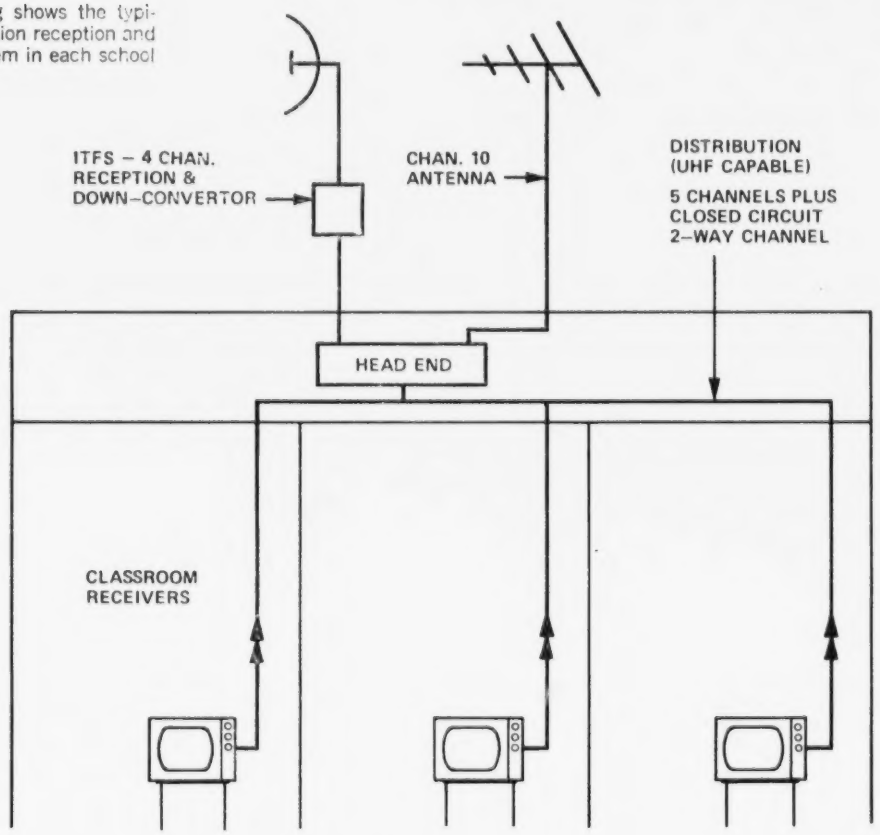



FIG. 2 Shows contours of KLVX; the ITFS system for the Las Vegas Valley; and the locations of the five translators covering the rural sections of the County.

FIG. 3 Drawing shows the typical school television reception and distribution system in each school in the county.


ITFS – 4 CHAN. RECEPTION & DOWN–CONVERTOR
CHAN. 10 ANTENNA
DISTRIBUTION (UHF CAPABLE)
5 CHANNELS PLUS CLOSED CIRCUIT 2–WAY CHANNEL
HEAD END
CLASSROOM RECEIVERS

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - LAS VEGAS SCHOOL DISTRICT**

**Address - LAS VEGAS, NEVADA**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   $320,000 - bond money, school district

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   N.A.

3. *How many school buildings in the system?*

   90

4. *How many students involved?*

   72,000

5. *What is your yearly cost for the operation of the system?*

   $360,000

6. *Where does the operational cost come from?*

   N.A.

7. *Do you use paid technicians for operation?*

   All are employees of Clark County School District

8. *Describe personnel of the above staff.*

   Chief engineer & 6 engineers

9. *How many hours per week is the system operational?*

   25-30 hours depending on schedule

10. *Do you have any tie with your local public television station?*

    VHF & 2500 MHZ both licensed to Clark County School District

11. *If so, do you use many of their programs? (Please describe fully.)*

    One ITFS Channel used to provide more flexible schedule - two ITFS Channels used to air 16mm films

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Professional personnel

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Great plans - NIT - WIT

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes, on a limited basis

15. *Who is responsible for your programming and scheduling?*

    John K. Hill - ITV Specialist

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    None

17. *Do you use the system for adult education?*

    Not at this time - plans developing

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes, more so all the time

19. *Do you use the system for administrative announcements?*

    Yes

20. *Do you have the full support of your teachers?*

    It is my opiion, yes - our R. & D. section agrees

21. *Do you feel that your system is doing a satisfactory job?*

    I feel this system is doing more than a satisfactory job

Cost per student per year - $5.00

**CHANNEL 10**

KLVX Las Vegas, Nevada

5700 Mountain Vista St., 89120 — Phone 451-1026

August 15, 1972

Mr. Max J. Friedman
Communications Consultant
Northeastern Educational Intermediate Unit
200 Adams Avenue
Scranton, Pennsylvania 18503

Dear Max:

In response to your inquiry concerning my opnion of our 2500 MHz system in the Greater Las Vegas Area, this system has been on the air now for the past four years. Duirng that time, we have had some minor shake-ups, however, as a whole the hardware has done a fine job.

Concerning its impact on the classroom, the effect has been dramatic. We currently program two full channels with 16mm film and two channels of instructional programming. This gives us a highly flexible system, so flexible that we enlisted the help of teachers in determining program airing times. We were able to satisfy the vast majority of requests. This is, indeed, unheard of within the confines of a single channel system.

I hope this answers your questions. If I can be of further assistance, please contact me.

Sincerely,

John K. Hill
Instructional Television Specialist

JKH:slg

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - CONSORTIUM MANAGER FOR CLEVELAND AREA PUBLIC SCHOOLS, PAROCHIAL SCHOOLS, COLLEGES AND HOSPITAL**

**Address - CLEVELAND, OHIO - ETV STATION WVIZ**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Fund raising effort by ETV Station

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   $50,000 Hardware, $25,000 Engineering

3. *How many school buildings in the system?*

   25

4. *How many students involved?*

   25,000

5. *What is your yearly cost for the operation of the system?*

   Too early

6. *Where does the operational cost come from?*

   Users

7. *Do you use paid technicians for operations?*

   Yes

8. *Describe personnel of the above staff.*

   1 Licensed Engineer, 1 Technician

9. *How many hours per week is the system operational?*

   Sporadic

10. *Do you have any tie with your local public television station?*

    Yes

11. *If so, do you use many of their programs? (Please describe fully.)*

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Just starting, using pre-recorded professional tapes

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Yes

14. *Do you bring in lecturers or specialists in any field for special purposes?*

15. *Who is responsible for your programming and scheduling?*

    ETV Stations and Users

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    Yes both developing

17. *Do you use the system for adult education?*

    Not as yet

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Potentially

19. *Do you use the system for administrative announcements?*

    We will

20. *Do you have the full support of your teachers?*

    Unknown

21. *Do you feel that your system is doing a satisfactory job?*

    We have high hopes

Based on Parma's experience it is safe to conclude that all other schools in the consortium would cost aproximately the same - $4.57

# NOTES ON "THE CLEVELAND PLAN"

One school district started and got a license — after which many others also applied. To prevent a chaotic situation a Consortium was formed which then appointed Educational Station WVIZ to become the manager. 16 channels were granted to the Consortium. The above took over a year of discussion and argument — and Parma, the originator, was allowed one channel for itself.

The entire area has a possibility of over 400 elementary, secondary and parochial schools, eight universities, and all hospitals. But for many reasons — mainly financial and, of course, weak leadership, there are at present only 25 participants out of 47 school districts.

They have a special curriculum committee which is very active and does a fine job. However, here again it is keyed for transmission by WVIZ and naturally there can be very few if any instructional programs in series — so that the end result is that for the most part it is an enrichment supplement on general educational lines and, therefore, only complementary to a 2500 MHz system.

WVIZ states that where their facilities are being used — the teachers are very enthusiastic. WVIZ has two full-time teachers on their staff at their expense who twice a year visit every participating school and gather information, etc.

They receive $1.00 per student per year from elementary and secondary grades and 50c per student for kindergarten students.

Each school or district, of course, had to purchase its own receiving equipment and other necessary accessories.

You will note the considerably lower cost per student per year which is due entirely to the fact that a consortium covering a great many schools and students, naturally, reduces the cost.

WVIZ is the umbrella agency which makes this possible in the Cleveland plan. WVIZ acts in the role of a public utility. However, actual control is by a board elected by all the members and they are responsible for the formation of plans covering allocation and use of channel scheduling time, coordination and use of programing, establishment of fees and charges and all other administrative functions.

The idea, therefore, of a consortium in Northeastern Pennsylvania has a great deal to recommend itself for consideration. This will be covered in another comment.

**WVIZ-TV**

**Community Television Educational Channel 25**

BETTY COPE
Executive Secretary
and General Manager

September 6, 1972

Mr. Max J. Friedman
Communications Consultant
P. O. Box 1458
Kingston, Pa. 18704

Dear Mr. Friedman:

Thank you for the invitation to comment on the progress of an ITFS sytsem. I would initially state that I have seen nothing which would suggest to me that we have not taken the right course as far as Greater Cleveland is concerned.

As I told you earlier, the advent of the economic squeeze just as we were getting rolling, slowed development, so this will be our first year of extensive operation. By mid-October, we will be operating four channels of ITFS plus the Parma Schools' channel on our transmission system. The four will include one channel for secondary schools, one for medical education and two for higher education. The Parma channel is predominantly elementary.

From an operational point of view, our coordinated system has facilitated a rapid development, now that funds are becoming available again. The commitment of one channel to secondary has permitted a vast increase in both the number of series that can be offered and the number of times each program can be offered. We feel that this will cause a substantial increase in high school program use. High school use of television via UHF, has been rising very nicely during the past two years. We have felt that the number of series available and the access problem has now become the primary limiting factors. The most common complaint we have been receiving recently from high school teachers has been the lack of appropriate material. This stemmed from the lack of available air time.

One of the significant factors in our approach is that we have inspected the nearly 100 installations which have been made thus far. Because of the variety of installers, our engineers have turned up numerous cases of poor installations. The 2500 MHz system would have been blamed for the poor reception rather than the bad workmanship, so quality-control is an essential element. We have been technical counsel to all our colleagues, with the result we should have a much healthier system.

A year from now I feel we'll be in a much better position to assess total impact. We have as our base line the amount of television use to date via UHF. We also have evidence of teacher attitude. Both of these encouraged us to go further. We are underetaking major programming efforts, particularly in social studies, where I feel the greatest contribution will be made. If we are right, some significant growth should become evident.

Sincerely,

Alan R. Stephenson, Ph.D.
Assistant Manager

ARS:dk

**CHANNEL 7**

WGM - 96 KNZ - 60 ITV

2500 W. Pleasant Valley Rd.
Parma, Ohio 44134
Phone: 216-842-5300

March 17, 1972

Max J. Friedman
Communications Consultant
P.O. Box 1458
Kingston, Pa. 18705

Dear Mr. Friedman:

I have received your letter dated March 4th and will try to answer the questions in such a way that they will be meaningful to you.

You indicate that Parma reported a yearly operating cost which came to $1.35 per year per student. This cost reflected our annual operating budget *excluding* salaries. If other systems have been reporting staff salaries as well as operating budgets this would obviously make a great deal of difference. By adding our operating cost and salaries the figure which I have arrived at is $4.57 per student per year.

Concerning our ties with WVIZ-Channel 25 I was referring to the fact that we did not use programs produced at Channel 25 as a part of the material which we broadcast at our station, some teachers use Channel 25 programs in addition to our own however, our programming is unique in that everything we do is tailored specifically to the Parma curriculum. Obviously, Channel 25 or any other large coverage facility cannot provide this kind of service. Our relationship with Channel 25 is good and I attend the monthly curriculum council meetings representing Parma. Also our transmitting facility is currently being leased to Channel 25 in order that they may present 2500 MHz programming however, they have not been transmitting on the 2500 MHz frequency for nearly 2 years. I hope that this clears up somewhat the relationship which we have with Channel 25.

We do not rent or lease any pre-recorded tapes but rather produce all of our own programs for the reasons I have already illustrated above, mainly everything we do has a specific and unique application to our curriculum.

Since we do not have a prepared brochure describing the nature of our planning and production in the curriculum area I should like to briefly outline our philosophy and the steps we follow. The main function of the instructional television facility at Parma is to produce and telecast direct instruction programs. We are continually evaluating and reviewing the types of programs which go into production. The teachers through questionnaire and direct contact as well as our central curriculum people determine the types of programming which is needed. First we do not do anything via television which can be done as well or better in the classroom. We concentrate on areas of the curriculum where there is a shortage of relevent resource material. Wherever units of instruction need strengthening with programming, these are the areas in which we strive to develop programs. We also use our facility in several other interesting and unique ways however, that information is probably not what you are most interested in at the present time. I hope that the material which I have related here will be of value to you. If you still have questions concerning any aspect of our operation or need additional information feel free to contact me directly.

Sincerely,

CHANNEL 7

James D. Bailey
Director of Instructional Services

JDB:vk

Enclosure

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - PARMA SCHOOL DISTRICT**
**Address - PARMA, OHIO**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Board of Education appropriation

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   $300,000 in a six-year period

3. *How many school buildings in the system?*

   29

4. *How many students involved?*

   26,000

5. *What is your yearly cost for the operation of the system?*

   $35,000

6. *Where does the operational cost come from?*

   Bd. funds

7. *Do you use paid technicians for operations?*

   Yes

8. *Describe personnel of the above staff.*

   1 Chief Engineer & 4 full-time Technicians

9. *How many hours per week is the system operational?*

   42

10. *Do you have any tie with your local public television station?*

    Yes with ETV Station WVIZ, Cleveland

11. *If so, do you use many of their programs? (Please describe fully.)*

    No

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes - both teachers & students

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    No

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes

15. *Who is responsible for your programming and scheduling?*

    I am

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No

17. *Do you use the system for adult education?*

    Yes

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    Seldom

20. *Do you have the full support of your teachers?*

    Most of them

21. *Do you feel that your system is doing a satisfactory job?*

    Indeed

Cost per student per year - $4.57

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - LEWISTOWN SCHOOL DISTRICT**

**Address - LEWISTOWN, PENNSYLVANIA**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Title I Project, ESEA

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   $210,000 equipment — $8,000 Engineering

3. *How many school buildings in the system?*

   25

4. *How many students involved?*

   9,906

5. *What is your yearly cost for the operation of the system?*

   $64,000

6. *Where does the operational cost come from?*

   Title I, ESEA

7. *Do you use paid technicians for operations?*

   Yes

8. *Describe personnel of the above staff.*

   Operations Technician, Operations & Maintenance Technician, Chief Engineer in Charge of Operation and Maintenance

9. *How many hours per week is the system operational?*

   45

10. *Do you have any tie with your local public television station?*

    Yes, (WPSX-TV Educational station, associated with Penn State)

11. *If so, do you use many of their programs? (Please describe fully.)*

    Yes. As members of Allegheny Educational Broadcast Council, associated with WPSX-TV, we receive and use their programing, approx. 40% or our schedule.

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes - a combination of the above

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Yes. Natl. Instructional TV, Pa. Dept. of Education - Great Plains ITV Library - Western Video Industries

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes

15. *Who is responsible for your programming and scheduling?*

    A full-time program director and producer is employed

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    WPSX-TV (Penn State University)

17. *Do you use the system for adult education?*

    No, but we have the capability of reaching 90% of the County

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes, to some extent

19. *Do you use the system for administrative announcements?*

    Yes, to some extent

20. *Do you have the full support of your teachers?*

    Survey of teacher opinion two years ago indicated support of the Instructional Television Program

21. *Do you feel that your system is doing a satisfactory job?*

    The system is satisfactory in broadcasting programs obtained from outside sources, but is inadequate in developing locally produced programs

Cost per student per year - $6.50

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - HANOVER SCHOOL DISTRICT**
**Address - HANOVER, PENNSYLVANIA**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Title III ESEA, for most of it. Some studio equipment was already owned by the district, with Title III NDEA funds

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   $115,000 equipment; $3,000 engr. service

3. *How many school buildings in the system?*

   28

4. *How many students involved?*

   13,000

5. *What is your yearly cost for the operation of the system?*

   $11,500

6. *Where does the operational cost come from?*

   Per pupil assessment

7. *Do you use paid technicians for operation?*

   Yes, one. Also part-time director and secretary from School Administration office

8. *Describe personnel of the above staff.*

   Former TV serviceman

9. *How many hours per week is the system operational?*

   40 - day - plus some night

10. *Do you have any tie with your local public television station?*

    Yes, have tie-in with local cable company

11. *If so, do you use many of their programs? (Please describe fully.)*

    We copy programs off-the-air from WITF-TV, Hershey

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes. Students & Teachers & Technician

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    No

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes

15. *Who is responsible for your programming and scheduling?*

    Technician

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No

17. *Do you use the system for adult education?*

    No

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    No

20. *Do you have the full support of your teachers?*

    Yes

21. *Do you feel that your system is doing a satisfactory job?*

    Yes

Cost per student per year - $1.15

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - MESQUITE SCHOOL DISTRICT**
**Address - MESQUITE, TEXAS**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Local funds -- tax money

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   N.A.

3. *How many school buildings in the system?*

   22

4. *How many students involved?*

   20,000

5. *What is your yearly cost for the operation of the system?*

   $150,000

6. *Where does the operational cost come from?*

   Local funds

7. *Do you use paid technicians for operation?*

   Yes

8. *Describe personnel of the above staff.*

   1 Production Engineer, 1 Chief Engineer Maintenance

9. *How many hours per week is the system operational?*

   40

10. *Do you have any tie with your local public television station?*

    No

11. *If so, do you use many of their programs? (Please describe fully.)*

    N.A.

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Students from crew -- 3 full-time TV teachers

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    N.A.

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Teacher in-service

15. *Who is responsible for your programming and scheduling?*

    Coordinator of Instructional Television

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    Not at this time

17. *Do you use the system for adult education?*

    Very little

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    Yes

20. *Do you have the full support of your teachers?*

    Yes

21. *Do you feel that your system is doing a satisfactory job?*

    Yes

Cost per student per year - $7.50

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - GADSDEN SCHOOL DISTRICT**

**Address - GADSDEN, ALABAMA**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Part of Title III ESEA Project. (Equalizing multi-school curriculum by technology)

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   Approximately $40,000 for equipment and engineering

3. *How many school buildings in the system?*

   Seven schools involved

4. *How many students involved?*

   3,989 students

5. *What is your yearly cost for the operation of the system?*

   Approximately $30,000

6. *Where does the operational cost come from?*

   General fund and special federal projects

7. *Do you use paid technicians for operation?*
   Yes

8. *Describe personnel of the above staff.*

   Director, Engineer, Technician, Programmer, Cameraman

9. *How many hours per week is the system operational?*

   Approximately 30 per week

10. *Do you have any tie with your local public television station?*

    No

11. *If so, do you use many of their programs? (Please describe fully.)*

    System produces adult education classes for local television

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes. All of the above plus resource personnel

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Very, very seldom

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes

15. *Who is responsible for your programming and scheduling?*

    Director

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No

17. *Do you use the system for adult education?*

    Yes

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Some

19. *Do you use the system for administrative announcements?*

    Yes

20. *Do you have the full support of your teachers?*

    Yes

21. *Do you feel that your system is doing a satisfactory job?*

    Yes

Cost per student per year - $7.50

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - OMAHA SCHOOL DISTRICT**
**Address - OMAHA, NEBRASKA**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Title III - Vocational equipment funds, with local support of dollars

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   $62,000 capital

3. *How many school buildings in the system?*

   130

4. *How many students involved?*

   3,500

5. *What is your yearly cost for the operation of the system?*

   $25,000

6. *Where does the operational cost come from?*

   School District of the City of Omaha

7. *Do you use paid technicians for operation?*

   No. — Supervisor, classroom instructor, vocational students

8. *Describe personnel of the above staff.*

   Part-time TV writing instructor, full-time graphics arts & media specialist instructor, full-time engineering instructor, a supervisor

9. *How many hours per week is the system operational?*

   Broadcast day 8:30 A.M. to 3:15 P.M.

10. *Do you have any tie with your local public television station?*

    No

11. *If so, do you use many of their programs? (Please describe fully.)*

    Not applicable

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Yes

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes

15. *Who is responsible for your programming and scheduling?*

    Committee of supervisors

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    Member of MOEBA (Metropolitan Omaha Educational Broadcasters Assn.)

17. *Do you use the system for adult education?*

    No

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Not at this time

19. *Do you use the system for administrative announcements?*

    No

20. *Do you have the full support of your teachers?*

    Difficult to determine

21. *Do you feel that your system is doing a satisfactory job?*

    It will take years before we can determine the effectiveness of this program

Cost per student pe ryear - $7.00

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - PALM BEACH COUNTY SCHOOL DISTRICT**
**Address - FLORIDA**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   ESEA Title I, state funds, local TV systems donations

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   N.A.

3. *How many school buildings in the system?*

   89

4. *How many students involved?*

   70,000

5. *What is your yearly cost for the operation of the system?*

   $400,000

6. *Where does the operational cost come from?*

   State, County, Title I funds

7. *Do you use paid technicians for operations?*

   Yes

8. *Describe personnel of the above staff.*

   13 engineering personnel - range from 1st class broadcast to 3rd class

9. *How many hours per week is the system operational?*

   40

10. *Do you have any tie with your local public television station?*

    Yes

11. *If so, do you use many of their programs? (Please describe fully.)*

    Sesame Street - Electric Company

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes - all three types - but students-teachers under guidance of 8 professional production personnel

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Yes - State Department, Great Plains

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes - all curriculum areas

15. *Who is responsible for your programming and scheduling?*

    Program specialist ITV, curriculum specialists

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No

17. *Do you use the system for adult education?*

    Yes

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes - Key

19. *Do you use the system for administrative announcements?*

    Yes

20. *Do you have the full support of your teachers?*

    Yes

21. *Do you feel that your system is doing a satisfactory job?*

    All evaluations so indicate - however, weak in secondary education due to many factors, mainly scheduling - in-service education utilization on a large scale with excellent acceptance.

Cost per student per year - $5.70

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - TORRANCE SCHOOL DISTRICT**
**Address - TORRANCE, CALIFORNIA**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Funds were provided out of the operating budget

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   $240,000 - equiment; $18,000 - service

3. *How many school buildings in the system?*

   36

4. *How many students involved?*

   21,000

5. *What is your yearly cost for the operation of the system?*

   $102,000

6. *Where does the operational cost come from?*

   District pfunds

7. *Do you use paid technicians for operation?*

   Yes

8. *Describe personnel of the above staff.*

   3 Class I Broadcast Engineers

9. *How many hours per week is the system operational?*

   30

10. *Do you have any tie with your local public television station?*

    No

11. *If so, do you use many of their programs? (Please describe fully.)*

    N.A.

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Students mainly

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Lease

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes

15. *Who is responsible for your programming and scheduling?*

    Steering committee

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No

17. *Do you use the system for adult education?*

    No

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    Yes

20. *Do you have the full support of your teachers?*

    Yes

21. *Do you feel that your system is doing a satisfactory job?*

    Yes

Cost per student per year - $5.00

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - OSSEO SCHOOL DISTRICT**
**Address - OSSEO, MINNESOTA**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   School Board funding

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   Price included design - although no real engineers were used - about $15,000

3. *How many school buildings in the system?*

   17

4. *How many students involved?*

   13,500

5. *What is your yearly cost for the operation of the system?*

   $66,000 - includes staff & materials

6. *Where does the operational cost come from?*

   Board funding

7. *Do you use paid technicians for operation?*

   Yes

8. *Describe personnel of the above staff.*

   TV director, artist, tech, cameraman (part-time), ½-time teacher, contracted teachers, studio manager

9. *How many hours per week is the system operational?*

   8 - 3:30 daily

10. *Do you have any tie with your local public television station?*

    No, except for Electric Company

11. *If so, do you use many of their programs? (Please describe fully.)*

    No, just Electric Company

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes. Part-time people - mostly pro staff

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    No

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes, human & cultural resources. No lecturers.

15. *Who is responsible for your programming and scheduling?*

    N.A.

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No, except for visitations and class offering through U. of Minn.

17. *Do you use the system for adult education?*

    No

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    No

20. *Do you have the full support of your teachers?*

    Ha! Ha! - from some

21. *Do you feel that your system is doing a satisfactory job?*

    Yes - except we'd like to and can do better

Cost per student per year - $5.00

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - FRANKLIN SQUARE SCHOOL DISTRICT**

**Address - FRANKLIN SQUARE, N. Y.**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Local taxes - regular school district budget + New York State Aid - 5 yr. plan

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   Approximately $30,000 for equipment; Engineering - none

3. *How many school buildings in the system?*

   6

4. *How many students involved?*

   12,000

5. *What is your yearly cost for the operation of the system?*

   $10,000 not including salaries*

6. *Where does the operational cost come from?*

   Regular school budget

7. *Do you use paid technicians for operation?*

   Yes

8. *Describe personnel of the above staff.*

9. *How many hours per week is the system operational?*

   40 hours

10. *Do you have any tie with your local public television station?*

    No

*$10,000 for outside technicians. Balance of staff composed of regular salaried teachers. Director's estimate of cost is $4.75.

11. *If so, do you use many of their programs? (Please describe fully.)*

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes - students

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Yes - N.Y. State Ed. Dept. Video Tape Library

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    No

15. *Who is responsible for your programming and scheduling?*

    T.V. studio - all scheduling is by specific teacher request

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No

17. *Do you use the system for adult education?*

    No

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    No

19. *Do you use the system for administrative announcements?*

    Some

20. *Do you have the full support of your teachers?*

    Mostly

21. *Do you feel that your system is doing a satisfactory job?*

    Qualified yes - scheduling is inefficient but necessary due to six schools on six different schedules. It is rare that more than 3 or 4 classes can view a program at same time. Also - very poor support from district curriculum personnel

Cost per student per year - $4.75

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - ROMAN CATHOLIC DIOCESE OF ROCKVILLE CENTER, N.Y.**

**Address - ROCKVILLE CENTER, N.Y.**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Contributions from Roman Catholic Diocese of Rockville Centre

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   1.5 million on equipment - don't have engineering figure

3. *How many school buildings in the system?*

   85

4. *How many students involved?*

   70,000

5. *What is your yearly cost for the operation of the system?*

   $325,000

6. *Where does the operational cost come from?*

   School and Diocese

7. *Do you use paid technicians for operation?*

   Yes

8. *Describe personnel of the above staff.*

   1 Chief, 3 Technicians, 1 Field Representative

9. *How many hours per week is the system operational?*

   At least 50 hours

10. *Do you have any tie with your local public television station?*

    Very weak

11. *If so, do you use many of their programs? (Please describe fully.)*

    None

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes - professionals

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Yes - GPNTL, NIT, Western Video, Lutheran Church

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes

15. *Who is responsible for your programming and scheduling?*

    Program Director

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No

17. *Do you use the system for adult education?*

    Yes - in religion

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    Yes

20. *Do you have the full support of your teachers?*

    Most of them

21. *Do you feel that your system is doing a satisfactory job?*

    Yes

Cost per student per year - $4.65

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - RICHARDSON SCHOOL DISTRICT**
**Address - RICHARDSON, TEXAS**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Local tax funds

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   $160,00[illegible]

3. *How many school buildings in the system?*

   36

4. *How many students involved?*

   32,000

5. *What is your yearly cost for the operation of the system?*

   $140,000

6. *Where does the operational cost come from?*

   Local tax funds

7. *Do you use paid technicians for operation?*

   Yes

8. *Describe personnel of the above staff.*

   1. Chief Engineer - 1st Class
   2. 3 Technicians - 2nd Class Ticket or better

9. *How many hours per week is the system operational?*

   40 hours

10. *Do you have any tie with your local public television station?*

    No, but pay for using "Electric Company" off the air taping

11. *If so, do you use many of their programs? (Please describe fully.)*

    Electric Company & Sesame Street — Tape off air, prebroadcast on delay basis

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes, a combination of personnel, high school and professional

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Great Plains, NIT, Western Instructional

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes, staff training, in service

15. *Who is responsible for your programming and scheduling?*

    An advisory committee composed of teachers

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No

17. *Do you use the system for adult education?*

    No

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    Yes

20. *Do you have the full support of your teachers?*

    Would like to think so - but a small percentage do not support us

21. *Do you feel that your system is doing a satisfactory job?*

    Yes

Cost per student per year - $4.40

# "QUESTIONNAIRE"
## 2500 MHZ "I. T. F. S." SYSTEM

**Name - MARTIN SCHOOL DISTRICT**
**Address - MARTIN, TENNESEE**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   $450,000

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   $440,000 — $10,000

3. *How many school buildings in the system?*

   90

4. *How many students involved?*

   40,000

5. *What is your yearly cost for the operation of the system?*

   $165,000

6. *Where does the operational cost come from?*

   Local & State

7. *Do you use paid technicians for operation?*

   Yes

8. *Describe personnel of the above staff.*

   Teacher, Engineers, Technicians, Producer - Director

9. *How many hours per week is the system operational?*

   35

10. *Do you have any tie with your local public television station?*

    No

11. *If so, do you use many of their programs? (Please describe fully.)*

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes - some of all

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Yes - Great Plains, NCST, IMPATI

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes

15. *Who is responsible for your programming and scheduling?*

    C. D. Cate, Director

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    Yes

17. *Do you use the system for adult education?*

    No

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    No

20. *Do you have the full support of your teachers?*

    Full?????

21. *Do you feel that your system is doing a satisfactory job?*

    For the total invested, yes - could do much better if funds were available

Cost per student per year - $4.10

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - BIRMINGHAM SCHOOL DISTRICT**

**Address - BIRMINGHAM, ALA.**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Title I ESEA 1965-66

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   $285,000 for equipment -employed our own engineer

3. *How many school buildings in the system?*

   80

4. *How many students involved?*

   50,000

5. *What is your yearly cost for the operation of the system?*

   $200,000

6. *Where does the operational cost come from?*

   Title I ESEA & General Fund

7. *Do you use paid technicians for operations?*

   Yes

8. *Describe personnel of the above staff.*

   2 engineers with 1st class FCC license

9. *How many hours per week is the system operational?*

   30 hours

10. *Do you have any tie with your local public television station?*

    No

11. *If so, do you use many of their programs? (Please describe fully.)*

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Partly - teachers

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    NATL Instructional TV, Great Plains Instructional TV Library, Western Video Industries

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes

15. *Who is responsible for your programming and scheduling?*

    Mr. Thomas Pinion, Supervisor ITV - & - Gerald E. Godfrey, Director ITV

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No

17. *Do you use the system for adult education?*

    No

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    Yes

20. *Do you have the full support of your teachers?*

    Yes

21. *Do you feel that your system is doing a satisfactory job?*

    Yes

Cost per student per year - $4.00

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - PADUCAH SCHOOL DISTRICT**
**Address - PADUCAH, KENTUCKY**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Capital Outlay Fund, Special Voted Fund, and Title III

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   $3,000 Engineering Contract,
   $105,000 for equipment

3. *How many school buildings in the system?*

   14

4. *How many students involved?*

   6,500

5. *What is your yearly cost for the operation of the system?*

   $28,000

6. *Where does the operational cost come from?*

   General Fund

7. *Do you use paid technicians for operation?*

   Yes

8. *Describe personnel of the above staff.*

   One Engineer and one Programmer

9. *How many hours per week is the system operational?*

   42 hours

10. *Do you have any tie with your local public television station?*

    No

11. *If so, do you use many of their programs? (Please describe fully.)*

    Does not apply

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes, we use local teachers only

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Yes, KLRN Spanish series

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes

15. *Who is responsible for your programming and scheduling?*

    The Director of Instructional Materials

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No

17. *Do you use the system for adult education?*

    Not at the present, but hope to in the near future

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes, micro-teaching

19. *Do you use the system for administrative announcements?*

    Yes

20. *Do you have the full support of your teachers?*

    Yes

21. *Do you feel that your system is doing a satisfactory job?*

    We feel that our programming has been very effective at the present time. However, once the system is in operation, it is very costly to maintain

Cost per student per year - $4.00

# "QUESTIONNAIRE"
## 2500 MHZ "I. T. F. S." SYSTEM

**Name - PEORIA SCHOOL DISTRICT**
**Address - PEORIA, ILLINOIS**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   N.A.

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   N.A.

3. *How many school buildings in the system?*

   100, approximately

4. *How many students involved?*

   30,000

5. *What is your yearly cost for the operation of the system?*

   $100,000

6. *Where does the operational cost come from?*

   School assessments

7. *Do you use paid technicians for operations?*

   Yes

8. *Describe personnel of the above staff.*

   N.A.

9. *How many hours per week is the system operational?*

   45 hrs

10. *Do you have any tie with your local public television station?*

    Yes - we are the local TV station

11. *If so, do you use many of their programs? (Please describe fully.)*

    Sesame Street, Electric Company

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Professional personnel

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    NIT, Great Plains/MPATI, Western Video

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Occasionally

15. *Who is responsible for your programming and scheduling?*

    School curriculum committee

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    Yes

17. *Do you use the system for adult education?*

    Yes

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    Occasionally

20. *Do you have the full support of your teachers?*

    Yes, depending on their familiarity with the system

21. *Do you feel that your system is doing a satisfactory job?*

    Yes

Cost per student per year - $3.30

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - PASADENA SCHOOL DISTRICT**

**Address - PASADENA, CALIFORNIA**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Regular school budget over several years, built in segments

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   Equipment $225,000; Engineering arranged by our maintenance department so I have no figures

3. *How many school buildings in the system?*

   N.A.

4. *How many students involved?*

   25,000

5. *What is your yearly cost for the operation of the system?*

   $60,000 - not enough

6. *Where does the operational cost come from?*

   4 regular employees, 2 hourly + operation costs

7. *Do you use paid technicians for operation?*

   Yes

8. *Describe personnel of the above staff.*

   Chief TV engineer, 2 TV engineers, 1 operations person; 2 all purpose hourly employees - cameramen, operators, etc.

9. *How many hours per week is the system operational?*

   20 hours

10. *Do you have any tie with your local public television station?*

    Commercial, no; Ed TV, yes

11. *If so, do you use many of their programs? (Please describe fully.)*

    Yes, they telecast, we record & set our own replay

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Some. Some of both

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Yes, RETAC

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes

15. *Who is responsible for your programming and scheduling?*

    One of my secretaries - we are incompletely staffed

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No formal arrangements

17. *Do you use the system for adult education?*

    No

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    Yes

20. *Do you have the full support of your teachers?*

    Silly question!!!!

21. *Do you feel that your system is doing a satisfactory job?*

    Surely!

Cost per student per year - $2.40

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - HUNTSVILLE SCHOOL DISTRICT**
**Address - HUNTSVILLE, ALABAMA**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Title I, ESEA, 1966

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   $200,000

3. *How many school buildings in the system?*

   28 receiving sites

4. *How many students involved?*

   32,000

5. *What is your yearly cost for the operation of the system?*

   $65,000

6. *Where does the operational cost come from?*

   General Fund

7. *Do you use paid technicians for operation?*

   Yes (hourly wage workers)

8. *Describe personnel of the above staff.*

   Supervised on-the-job trainees

9. *How many hours per week is the system operational?*

   90 total on-the-air time - 4 channels

10. *Do you have any tie with your local public television station?*

    Yes

11. *If so, do you use many of their programs? (Please describe fully.)*

    Recorded from microwave, rescheduled & repeated as necessary: or relayed

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes. Students - Technicians; Teachers - on camera professional production personnel - staff

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Yes. Local production, state network

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes. (Lectures are more economical by simple audio tape)

15. *Who is responsible for your programming and scheduling?*

    Director of Educational Media (ETV Center Director)

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    Yes

17. *Do you use the system for adult education?*

    No

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes - teacher's in-service sessions

19. *Do you use the system for administrative announcements?*

    Yes

20. *Do you have the full support of your teachers?*

    Mostly

21. *Do you feel that your system is doing a satisfactory job?*

    Yes, for elementary; no, for secondary (special applications under study)

Cost per student per year - $2.00

# "QUESTIONNAIRE"

## 2500 MHZ "I. T. F. S." SYSTEM

**Name - HOUSTON SCHOOL DISTRICT**
**Address - HOUSTON, TEXAS**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Local bond funds

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   $300,000 (engineering service included in price.)

3. *How many school buildings in the system?*

   33

4. *How many students involved?*

   40,000

5. *What is your yearly cost for the operation of the system?*

   $75,000

6. *Where does the operational cost come from?*

   Local & State funds

7. *Do you use paid technicians for operation?*

   Yes

8. *Describe personnel of the above staff.*

   Director televised instruction, staff secretary, art director, producer-director, broadcast tech., chief eng., 2 employed students (cameramen)

9. *How many hours per week is the system operational?*

   2 channels - total of 75 hours weekly broadcast

10. *Do you have any tie with your local public television station?*

    No

11. *If so, do you use many of their programs? (Please describe fully.)*

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes, we use all above stated

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    Yes, from our own studio

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes

15. *Who is responsible for your programming and scheduling?*

    Director of televised instruction

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No

17. *Do you use the system for adult education?*

    No

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    No

20. *Do you have the full support of your teachers?*

    Yes

21. *Do you feel that your system is doing a satisfactory job?*

    Yes, very satisfactory. We receive excellent results and will expand to four channels during 1972-73

Cost per student per year - $1.90

# "QUESTIONNAIRE"
## 2500 MHZ "I. T. F. S." SYSTEM

**Name - UNION SCHOOL DISTRICT**
**Address - UNION, NEW JERSEY**

1. *How did you raise the capital needed? (Consider only equipment for the basic transmitting and control center.) Please do not include receiving equipment or master antenna systems needed at each individual school building in the system.*

   Title III ESEA

2. *Approximately how much was spent for above equipment - and how much for engineering service.*

   $29,000 & $6,000

3. *How many school buildings in the system?*

   10

4. *How many students involved?*

   8,800

5. *What is your yearly cost for the operation of the system?*

   Salary of one professional - $11,000

6. *Where does the operational cost come from?*

   ESEA Title III

7. *Do you use paid technicians for operation?*

   1 aide, $1650 per year

8. *Describe personnel of the above staff.*

   Professional - former teacher with TV background; aide - electronics high school student

9. *How many hours per week is the system operational?*

   15

10. *Do you have any tie with your local public television station?*

    Yes

11. *If so, do you use many of their programs? (Please describe fully.)*

    Yes. Channel 13 - Tape "Off The Air", Run Cooperative Workshops

12. *Do you originate your own programs? If so, do you use students, teachers, or professional production personnel?*

    Yes

13. *Do you use pre-recorded tapes? If so, please state your main sources.*

    No - we tape off the air with permission

14. *Do you bring in lecturers or specialists in any field for special purposes?*

    Yes

15. *Who is responsible for your programming and scheduling?*

    The professional listed above and the assistant superintendent

16. *Do you have any tie with colleges or industrial plants or other institutions?*

    No

17. *Do you use the system for adult education?*

    Not yet

18. *Do you use the system for retraining of teachers of "in-service" sessions?*

    Yes

19. *Do you use the system for administrative announcements?*

    Not yet

20. *Do you have the full support of your teachers?*

    Yes

21. *Do you feel that your system is doing a satisfactory job?*

    Yes, and more so in time. Receiving equipment only now being installed at 5 schools

Cost per student per year - $1.25

# WAYNE STATE UNIVERSITY, KVP-20
# DETROIT, MICHIGAN

January 21, 1972

Mr. Max J. Friedman
Communications Consultant
P. O. Box 1458
Kingston, Pennsylvania 18704

Dear Mr. Friedman:

Our Instructional Television Fixed Services Station consists of two channels operating in the G-Band.

The system is designed to allow industries in the Detroit area to establish classrooms on their premises so that employees can continue their education in engineering and business administration at the masters level. A unique feature of this system is the provision for live telephonic talkback from the remote classrooms to the originating classroom on the Ann Arbor campus. This allows two-way audio communication and requires that all classes we televise be taught live. At present we have approximately 250 remote students taking classes in engineering and buisness administration via this system.

Since your questionnaire obviously is directed toward a large public secondary school system, many of the answers to your questionnaire would not be pertinent. If you wish further information, I would be pleased to discuss it with you over the telephone. I can be reached at A.C. 313 763-1233.

In closing I might comment in answer to your question #21 that our experience with the system with live talkback indicates that it is extremely effective and our remote students are successfully completing their academic objectives.

Very truly yours,

James B. Tintera

# TAGER

THE ASSOCIATION FOR GRADUATE EDUCATION
AND RESEARCH OF NORTH TEXAS

Post Office Box 30365

Dallas, Texas 75230

214-231-7211


January 25, 1972

Mr. Max J. Friedman
Communications Consultant
P. O. Box 1458
Kingston, Pennsylvania 18704

Dear Mr. Friedman:

Enclosed is your "2500 MHz Questionnaire". Your letter, and the questions, indicate the system being considered is for a public school. TAGER, on the otherhand, serves nine colleges and universities and several industrial sites in the Dallas-Fort Worth area. The television system which we operate is a combination of 6/12 GHz microwave links plus 2.5 GHz ITFS channels.

For these reasons many of the questions are impossible to answer in the context I believe you are working. I have answered those which seem appropriate and am sending along a brochure on the TAGER system as well as a Spring 1972 Bulletin.

Sincerely,

E. L. Crandell
Assistant Executive Director
for Business Affairs

mm

Enclosures

**COMMENT**

**The literetaure is on file in the office of N.E.I.U. #19 and is well worth reading.**

## "CONCLUSION"

Television has been proven, beyond a question of a doubt, to be an extremely effective teaching tool. This is true in every level of instruction from kindergarten thru college.

Since this is so, television should be brought into every classroom! The ideal way, it seems to me, is through this special band the FCC provided for instructional television. It is the most economical way because you can reach the greatest number of students at the lowest cost per pupil per year.

A thorough study of the results of my questionnaires will surely convince you that those schools having systems are completely satisfied with the results obtained and in fact, most of them are highly enthusiastic.

In this day and age, modern mass communication is vital. You have the opportunity to make a giant step forward by taking advantage of this most effective means of instruction. Consider being able to reach into every classroom and have the attention of your entire student population of 57,000 at one time, regardless of how widely separated.

The cost per pupil per year is really insignificant when you consider the great good you can accomplish. I, therefore, urge that you give the adoption of this system your earnest consideration.

## "HOW TO PROCEED"

Dr. Mensky, should you decide after studying this report to take the next step - I recommend that copies of this report be given to each member of your Board of Directors prior to the January meeting. This will make them aware of what this project is all about.

You will need their unanimous stamp of approval as well as their enthusiastic support. They will be called upon to spend approximately twenty-five thousand dollars ($25,000.00) for the following purposes:

A. To engage an engineering firm to do the preliminary survey and prepare the F.C.C. license

B. To prepare a budget of cost for transmission equipment for the control center

C. To prepare a budget of cost for receiving equipment for each school district

I believe the Department of Education at Harrisburg should contribute this amount for engineering - and urge you Dr. Mensky to pursue that with Mr. Gerlack. If this is accomplished, the money the Northeastern Educational Intermediate Unit Board allocates can better be used for promoting this project to each of the twenty districts.

The bulk of the money for this project must come from the Federal Government. The first step here, I am already working on through Congressman Joe McDade. I will render a separate report shortly on this subject.

Mr. Ben Simoncelli, your Federal Funds Co-ordinator, will exert every effort through every possible avenue to obtain funds - as soon as he has in his possession budget figures and facts as to what amounts are needed. These must come from the engineering survey.

# ADDENDUM

Since completing my study, at the request of the Department of Education, we will resume negotiation with WVIA Channel 44.

Our instructions are to avail ourselves of every service and/or equipment that WVIA can furnish us without charge. The reasoning behind this is basically an economic one. Since they use public funds and we will also, the department insists there be no duplication of facilities except where WVIA does not have them or cannot provide them.

We will do our utmost to cooperate with WVIA—with this one great exception that all instructional programming be the responsibility of the Northeastern Educational Intermediate Unit. The programming and scheduling shall be controlled by the Executive Director without any interference of any kind from WVIA.

We should however continue to use every effort to raise funds for our project from every source possible with the view of becoming completely independent should it be advisable if working with WVIA becomes a hardship.